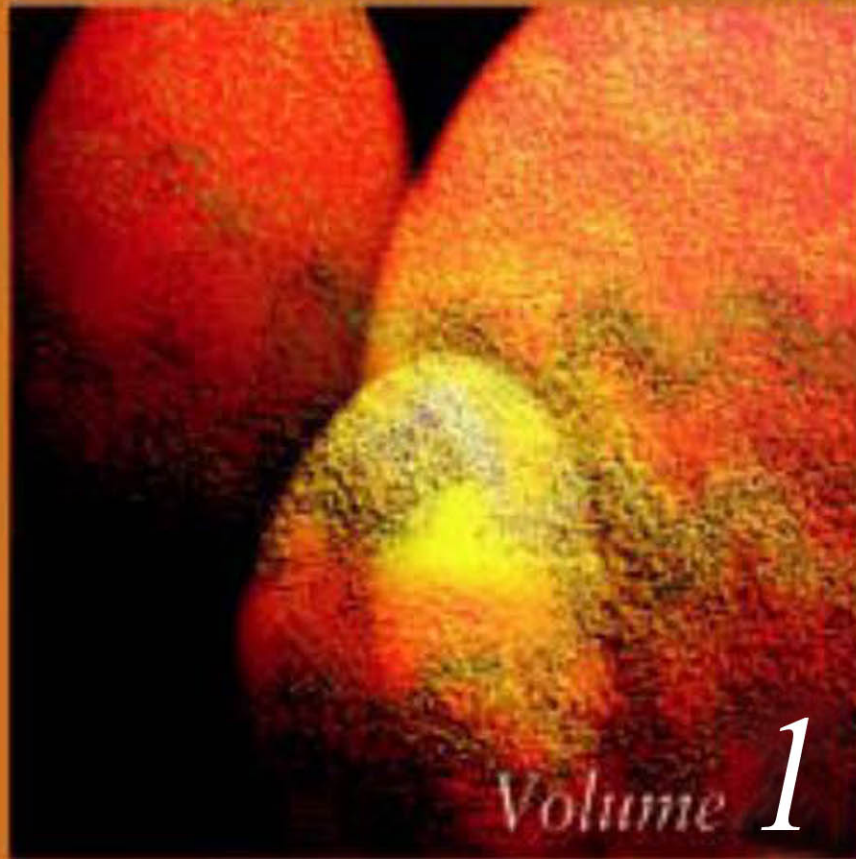


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A Reference Handbook



Volume 1

Edited by

Charles Wankel

21st Century
MANAGEMENT
A Reference Handbook

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MANAGEMENT
A Reference Handbook

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Edited by
Charles Wankel
St. John's University

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PREFACE

2*1st Century Management* provides clear and useful discussion by scholars from around the world of 100 of the key issues and topics that managers are confronting in the 21st century. The structure of discourse for each issue, and important associated perspectives and research, is concisely and meaningfully presented. New technologies, globalization, and associated ethical implications frame many of these issues. The management of 21st century nonprofit, arts, healthcare, sports, and philanthropic organizations are each given chapter length focus. Significant and helpful bibliographic leads for those interested in further researching an issue are provided. This worldwide collaboration includes contributions by leading experts from Australia, Barbados, Canada, Denmark, Finland, France, Germany, India, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Singapore, Taiwan, Turkey, the United Kingdom, and the United States.

The first section of this handbook focuses on entrepreneurship in the 21st century. Those entering the labor market today, beyond seeing careers in large enterprises, often find opportunities to join or start new ventures, sometimes even in virtual contexts such as second life. What is important to know about organizational emergence, corporate entrepreneurship, social entrepreneurship, social enterprise, high-technology entrepreneurship, the role of government in helping and impeding entrepreneurs, the special issues that women must address in starting new businesses, how to go about planning new businesses, and why entrepreneurs keep trying after initial failure of a new venture is covered here.

The second topical area to be addressed by this volume concerns contemporary issues of business, society, and government. The 21st century finds businesses nested in over multiple jurisdictions, where cultures and values are changing and that are increasingly beset by crises such as disasters of the natural environment. Global business citizenship is discussed as not only a socially responsible and ethical way for firms to proceed but as a sensible and effective way of fitting with the requirements of the 21st century. New forms of labor relations are evolving given the robust positioning

of competition, both domestic and international, of nonunion and low-wage enterprises. One chapter looks at directions in labor relations with a focus on what they might be in 2025. Excessive work and its business consequences is an issue addressed by a chapter in this book. The factors associated with the success of women managers in business are analyzed. *Doing well by doing good* is a current business buzz phrase. That is, making money by working with people in poorer nations who benefit by the partnership. This was chiefly sparked by Prahalad's *The Fortune at the Bottom of the Pyramid* (2006). The multifaceted dimensions of this movement are addressed in a chapter in this section. Another chapter discusses organizational crisis management in the post-9/11 business epoch. The proactive management of an organization's environment including activist groups and other stakeholders is considered at length.

Managing the global enterprise is addressed with a focus on doing business in Asia and developing nations. How firms manage terrorism-induced uncertainty is one of the areas considered. The development of a global mind-set and working in a multilingual business world is covered.

Hurricane Katrina and Al Gore's movie and book put global climate change on the agenda of leaders of business, government, and management professors and students, and the reference librarians who guide them. Part IV, Sustainability and the Natural Environment: Green Management, begins with a chapter "Toward Sustainable Organizations for the 21st Century." It is followed by a chapter explaining why firms comply or do not comply with environmental regulations. An applied focus is provided by "Understanding and Overcoming the Green Wall: Environmental Strategy, Leadership, and Change Management in Business." The section concludes with a chapter on how many firms collaboratively incorporate environmentalist concerns in supply chain management.

Strategy in a fast and networked world is the theme of 11 chapters. How strategic decisions are made in high-velocity contexts begins the section. Innovation, effective planning, and competition in Internet-based interorganizational systems are covered by three chapters. Evolving

aspects of outsourcing to countries such as India is the focus of another chapter. Business partnerships and mergers are discussed with a focus on interorganizational product and service development and deployment.

Six chapters are on operations management with new technologies in a global context. How companies' boundaries blur in the integrated and globalized context in the age of e-business is one of the focal topics. This is followed by improving supply chain information velocity, product customization, and cost through extended enterprise applications. How information technology and automated processes enable "mass customization" where products can be individualized profitably is the topic of a chapter. Ethical manufacturing is given chapter-length treatment.

Organization and disorganization is examined through the prism of post-9/11 security concerns. One chapter is on hospital planning for weapons of mass destruction incidents. Global projects as an important new organizational form is discussed in a chapter. The constraints of an organization's structure on what it does are also covered.

Teaming in and beyond organizations in the knowledge economy is the focus of five chapters. The section begins with the evolving nature of work teams as they change to meet the requirements of the future. Web-based tools for collaborating with customers to develop new products and services are the subjects of a chapter. Transnational teams in knowledge-intensive organizations are discussed, as is the coordination in global teams and the conflict management within them.

The human resources as a key strategic factor section covers work-home interaction issues, flexibility in work and scheduling, wellness programs, and career management including the special issues associated with mid- and late careers. Diversity and its management in the age of globalization are covered in four chapters. Family friendly organizations are discussed with a focus on the future.

Managing the behavior of people in 21st century organizations is the subject of nine chapters. Motivating people working remotely is discussed. Also covered is making work in public organizations intrinsically motivating. Understanding and managing misbehavior in organizations is a chapter. Intercultural communications and strategies for managing the intercultural dimensions of business are treated in a chapter. Emotion, trust and mistrust, and organizational politics are covered here as well. The part on Organization Development and Change in the 21st Century also has six chapters discussing how change can be most effectively carried out in contemporary organizations.

Leadership is discussed over six chapters. The section begins with a chapter on developing a leadership style to fit 21st century challenges. Then, remote leadership in the new and evolving technological context is explained. Leadership across organizational, functional, cultural, and geographical boundaries is discussed.

The part on Information and Knowledge With Mobility and Ethics includes chapters covering knowledge management, communities of inquiry, facilitating mobile and virtual work, the impact of telework, electronic monitoring

of person Web use at work, information privacy organizations, multilingual and multicultural issues in global e-commerce, managing intangible capital, and the implications of radio frequency identification technology.

A new concept for reference books such as this one is a digital form ancillary providing student term paper assignments and course discussion ideas for the topics of the chapters largely shared by chapter authors (for more information, go to www.sagepub.com/wankel). This quasi-instructors' manual provides reference librarians with an overview of the sorts of projects and assignments they might recommend this handbook to facilitate. (Links to the homepages of the chapter authors are accessible at <http://management-education.net/h>.)

—Charles Wankel

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PART I

ENTREPRENEURSHIP IN THE 21ST CENTURY

ORGANIZATIONAL EMERGENCE

Business Start-Up Issues

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It has been estimated that at any one time over 500 million people globally are involved in the process of starting up a new venture (Reynolds, Bygrave, & Autio, 2003). This makes the study of emerging organizations one of the primary areas of research in the field of entrepreneurship (Aldrich, 1999). Organizational emergence is a dynamic process involving activities such as obtaining resources, developing products, hiring employees, and seeking funding. New ventures undertake these activities at different times (Lichtenstein, Dooley, & Lumpkin, 2006), and in different orders (Carter, Gartner, & Reynolds, 1996). Carrying out these activities lays the foundation for the new venture to develop unique capabilities and to gain the trust of stakeholders.

Organizational emergence involves those activities and events that are undertaken *before* an organization becomes an organization. This is the “in creation” period in the life cycle of an organization. The individuals who undertake purposeful actions to construct an organization based on their vision are referred to as nascent entrepreneurs (Aldrich, 1999; Baron, 1998, 2000; Bird, 1988). During emergence, the nascent entrepreneurs bring together resources and engage in activities that will eventually distinguish the business as an entity that is separate from the individuals who began it (Carter et al., 1996; Reynolds, Storey, & Westhead, 1994).

While start-up activities are an important component when trying to understand an emerging organization, it is also important to develop an understanding of the individuals involved in the start-up process. These nascent entrepreneurs may form an organization on their own, or work with others in a team (Aldrich, 1999). They have dif-

ferent motivations for starting a firm, from wanting greater independence to trying to gain wealth (Carter et al., 1996), and they tend to have different support systems and career mentors. While some nascent entrepreneurs have a high regard for themselves and their ability (Markman, Balkin, & Baron, 2002), others are more modest. In addition, individuals who are thinking about starting a business tend to look for start-up opportunities in different places, and have very different ideas about what the size and scope of the business should be once the new venture is established.

In this chapter, we examine the scholarship around organizational emergence. To do so, we start by taking a look at the well-regarded conceptual model of organizational emergence developed by Katz and Gartner (1988). We then examine the empirical research with respect to *who* nascent entrepreneurs are and *what* nascent entrepreneurs do. Specifically, we review research on entrepreneurial cognition plus start-up activities and social capital. We then discuss the scholarship on indicators of emergence or start-up success. Finally, we present two sources of data on nascent firms that scholars can use when examining this phenomenon. We conclude with some possible areas of future research about emerging organizations.

CONCEPTUAL FRAMEWORKS: THE KATZ AND GARTNER MODEL

Katz and Gartner (1988) developed a well-regarded framework that explains organizational emergence by outlining four basic properties of emerging organizations. These

properties are as follows: *intentionality*—the purposeful effort involved in organization emergence; *resources*—the tangible building blocks of an organization; *boundary*—the creation of protected or formalized areas in which emergence occurs; and *exchange*—the crossing of boundaries to either secure inputs (e.g., resources) or outputs of the organization. While we will look at these four properties independently, it is important to remember that we are doing so for conceptual convenience and that these properties are interrelated and overlap substantially.

Intentionality

Intentionality is “an agent’s seeking [of] information that can be applied toward achieving the goal of creating a new organization” (Katz & Gartner 1988, p. 431). Organizations are created by individuals acting purposefully, and therefore it is the entrepreneurs’ intentions that lead to activities involved in organization creation (Bird, 1988; Shook, Priem, & McGee, 2003). In the Katz and Gartner model, intentionality is used to represent the individual cognitive characteristics of the nascent entrepreneur, thus addressing the question of *who* nascent entrepreneurs are.

Resources

Resources are the building blocks of an organization. They include human and financial capital, property, and equipment (Katz & Gartner 1988, p. 432), as well as personal funds, time, and experience (Brush, Greene, & Hart, 2001). Resources are used, combined, and coordinated into the production activities of the new organization (Penrose, 1957). Studies examining the role of resources in new ventures find that different resource configurations influence new firm success, firm resources interact with firm strategies, and entrepreneurs “make do” with the resources that they have (Baker & Nelson, 2004; Brush et al. 2001; Chandler & Hanks 1994; Edelman, Brush, & Manolova, 2005).

Boundary

Boundary is the “barrier condition between the organization and its environment” (Katz & Gartner 1988, p. 432). It is the “space” where the organization exerts some control over the resources in its environment. Boundaries can be determined by social relations, time, legal and formal contracts, and physical and spatial considerations (Scott 1987). As boundaries coalesce, routines and competencies are developed within the now defined firm, which allows it to compete and cooperate (Aldrich, 1999). Boundaries may be formal, as in legal form, or informal, as in the case when the entrepreneur makes a conscious decision to found the business (Learned, 1992). Early boundary-defining actions include deciding on which people to hire, how jobs are structured, and how new members interact with each other, including how they interact with people outside the organization (Aldrich, 1999). Empirical studies examin-

ing boundaries of new organizations find that in the early phases of organizational evolution, organizational structures, practices, and boundaries vary widely, but tend to be informal and fluid (Bhave 1994).

Exchange

Exchange refers to cycles of transactions that occur within an organization (Katz & Gartner, 1988). While exchange can occur within the boundaries of an organization (i.e., across different areas of the organization), for small fledgling firms, most exchanges occur across organizational boundaries or between firms. The pattern of exchange usually involves resources or inputs that are transformed into outputs (Katz & Kahn, 1978). Exchanges are inherent in the social contract: employees or participants in the organization agree to perform certain work in exchange for pay, rights, or privileges (Weick, 1979). Resources are acquired through an exchange process while goods and services are produced and exchanged across boundaries of the organization (Scott, 1987).

Limitations of the Katz and Gartner Model

While the Katz and Gartner (1988) framework provides researchers with a solid foundation for examining the phenomenon of organizational emergence, as with all frameworks it has a number of limitations. Specifically, the framework was initially developed as a means for entrepreneurship researchers to identify new ventures in the greater population of firms, and so focuses on tangible dimensions of organizations that are considerably more easily identified. In doing so, it fails to adequately develop the theoretical framework for a number of less tangible dimensions that play an important and ongoing role in the development of new firms. Two such dimensions are behaviors that lead to enhanced organizational legitimacy and behaviors that lead to organizational knowledge creation, accumulation, and transfer.

EMPIRICAL RESEARCH: THE NASCENT ENTREPRENEUR

Early research on entrepreneurial cognition looked at what is now known as “trait research.” Emerging from the early psychological research on needs (McClelland, 1961), entrepreneurial trait research focused on the search for a set of stable personality characteristics that distinguished entrepreneurs from nonbusiness owners. Trait factors included characteristics such as age, marital status, and family background. Typically these traits were easy to identify and readily measurable (they included items such as gender, education, family, and race).

The objective behind this line of inquiry was to determine the individual’s propensity to engage in entrepreneurial

behavior based on the individual characteristics of an entrepreneur. While the best of these studies compared entrepreneurs to nonentrepreneurs (Collins & Moore, 1964) or compared groups of entrepreneurs (Smith, 1967), the general consensus is that research on entrepreneurial traits did little to advance our knowledge of entrepreneurship, and that entrepreneurship researchers would be better served focusing on what entrepreneurs *did* as opposed to *who* they were (Gartner, 1989; Shaver & Scott, 1991).

While trait research has largely been undercut by more recent scholarship, work in this area still exists on specific key individual dimensions. For example, the level of education has been explored in international studies of nascent entrepreneurs, with the general finding that individuals with medium to high levels of education are more likely to engage in start-up behaviors (Arenius & De Clerck, 2005; Delmar & Davidsson, 2000). Also, previous experience in starting one's own firm has been found to correlate with start-up behavior (Cooper & Gimeno-Gascon, 1992). However, traits such as previous management experience, and amount of work experience have not been found to lead to new venture start-up (Aldrich & Kim, 2005; Delmar & Davidsson, 2000).

More recent scholarship examines specific cognitive attributes of nascent entrepreneurs. For example, entrepreneurial intentions—individuals' beliefs influencing their intentions (Shapero, 1982)—has been explored in the theoretical work of Bird (1988), Katz (1992), and Krueger and Brazeal (1994). In addition, empirical work by Kolvereid (1997) provides support for the importance of entrepreneurial intentions to start-up success.

Another extension of the work on intentions is a recent study on the reasons why nascent entrepreneurs chose entrepreneurship as a career (Carter, Gartner, Shaver, & Gatewood, 2003). The study examined the importance of (a) financial success, (b) innovation, (c) recognition, (d) independence, and (e) self-realization by comparing nascent entrepreneurs to a control group of nonentrepreneurs. Counter to many of the common notions about entrepreneurship, the results found that financial success and innovation were not primary reasons why people started their own businesses. In fact, none of the variables studied were found to have a singular impact on the start-up motivations of nascent entrepreneurs, suggesting that motivations behind starting a new venture are complex and interrelated.

Moving away from intentions, other scholars use the idea of entrepreneurial cognition in their work as well. McGrath and MacMillan (1992) found that the content of entrepreneurial beliefs is similar across international cultures. Cooper, Woo, and Dunkelburg (1988) discovered that entrepreneurs believe their own chances of success are very high—higher than the chances of success they perceive for other firms. Gatewood, Shaver, and Gartner (1995) found that the cognitive beliefs associated with entrepreneurial persistence vary by gender. Edelman, Friga, Mishina, and Yli-Renko (2004) examined the role of objective versus subjective environmental perception on the likelihood of a nascent firm becoming an operating business. They found

that the nascent entrepreneur's perception of the environment was significantly more important when starting a new venture than an objective environmental measure. Finally, Forbes (1999) provided a comprehensive review of the literature on cognition and nascent entrepreneurs.

Social Capital

One important, boundary-spanning activity in which nascent firms are involved is the development of relationships, or social capital, with others who are outside the newly defined boundaries of the firm. Social capital is the set of resources that accrue to an individual or group by virtue of their social connections (Coleman, 1988). Social capital is different from other forms of capital in that it is not owned by an individual but instead is a function of the relationship between two or more individuals.

Recently, a number of empirical studies have examined the role played by social capital in the process of starting a new venture. Kim, Aldrich, and Keister (2003) found a positive effect between the decision to become nascent entrepreneurs and the number of relatives who own their own businesses. This finding suggests that mentoring and family ties are important when starting a new firm, implying that it may be possible to transfer social capital among friends and family. International studies on nascent entrepreneurs indicate that those who know others who are self-employed, and hence have more extensive social networks, are more than twice as likely to start a new venture (Arenius & Minniti 2005). Finally, Davidsson and Honig (2003) found a general pattern of the increasing importance of social capital over the start-up period. Their findings indicate that social capital is less important at the beginning of the start-up process; however, as the firm moves toward increasingly greater financial performance, social capital takes on a more important role. This suggests that not only is the development and use of social capital a necessary component of growing a new venture, but also that as a resource, social capital becomes increasingly important as young firms move beyond the initial start-up phase and into growth.

Start-Up Teams

While it important to understand who nascent entrepreneurs are from an individual perspective, over 50% of new ventures in the United States are started not by individuals, but by teams (Aldrich, Carter, & Ruef, 2004). This suggests that the process of starting a new firm is a collective, not an individual, effort. Most new firms (74%) are started by a team of two, and of these two-person teams, the majority (53%) are marital partners or family members (Aldrich, Carter, & Ruef 2004).

Ruef, Aldrich, and Carter (2003) further examine new venture team composition. Moving beyond those firms started by marital partners, they found that start-up teams are comprised of individuals who are similar in gender, ethnicity, and occupational background. This suggests that,

counter to the description portrayed by many entrepreneurship textbooks, new firms are *not* started by a large group of individuals who collectively bring a number of critical skills or competencies to the new firm, but instead they are started by a small number of people who are either family members, or who are very similar.

Reuf, Aldrich, and Carter's (2003) findings have important implications for researchers interested in the development of organizational capabilities. Capabilities are the firm's ability to exploit a particular set of organizational resources. In young firms, capabilities are directly related to the skills of the start-up team. For nascent firms that are in the process of start-up, this finding implies that new firms are not only likely to have a limited set of capabilities, but also that the set of capabilities inherent in the new firm is not likely to rapidly expand. If nascent firms are going to survive and then thrive beyond the initial start-up period, Reuf et al.'s findings argue for a well-defined initial strategy that matches the capabilities of the nascent firm with the market opportunity.

BEHAVIORS AND ACTIVITIES OF NASCENT ENTREPRENEURS

While there has been a substantial body of work examining the question, *Who are nascent entrepreneurs?* an equally substantial number of scholars have looked at organizational emergence from the perspective of what nascent entrepreneurs do. These researchers are interested in the behaviors or activities surrounding the start-up process (Carter, Gartner, & Reynolds, 2004). Using a variety of theoretical frameworks to better understand the start-up process, these behavior-oriented scholars conduct research on topics such as the number of activities nascent entrepreneurs undertake (Carter et al., 1996), the grouping of those activities into a logical ordering (Manolova, Brush, & Edelman, 2002), the timing of start-up activities (Lichtenstein, Carter, Dooley, & Gartner 2004), and which activities precede other important start-up events (Delmar & Shane, 2004).

In the mid-1990s there was a flurry of activity in the behavioral area of new venture start-up. For example, Reynolds and Miller (1992) examined a sample of nascent entrepreneurs and found that start-up activities did not have a logical progression. Following this research, Gatewood et al. (1995) explored whether cognitive factors and entrepreneurial activities led to the formation of a business, as measured by sales. They found that activities involving setting up business operations, such as purchasing raw materials and supplies, hiring and training employees, producing, distributing, and marketing a product or service were significantly correlated with the creation of a new firm. Carter et al. (1996) identified a random sample of adults who were in the process of starting a venture. They examined specific start-up activities such as personal commitment, financial support, hiring, and activities that developed the structure of the business. They found that it was the number of activi-

ties, and in particular those activities that are more tangible, (e.g., looking for facilities and equipment, forming a legal entity) that increased the likelihood of survival.

While these early studies showed that the activities of nascent entrepreneurs who started a business are different from those of nascent entrepreneurs who did not, they suffered from problems of retrospective bias, lack of generalizability, and small sample size. These data collection issues were part of the impetus for the creation of the Panel Study of Entrepreneurial Dynamics (PSED) datasets (a more complete discussion of the PSED dataset can be found later in the chapter), which specifically examine the start-up activities of nascent entrepreneurs. Building off of PSED data that was either collected in the United States or internationally, a number of more recent studies examine the connection between start-up activities and the probability of start-up.

Shane and Delmar (2004) examined groups of planning, legitimacy, and market activities and their effect on the probability of starting a new venture (defined as not disbanding) of 223 Swedish new ventures. They found that planning and legitimacy were significantly correlated with the probability of starting a new venture but that market activities had no effect. Two additional studies examined the timing of business plans and found that new ventures that wrote business plans before talking to customers and/or before beginning marketing or promotion had a lower rate of termination than other firms (Delmar & Shane, 2003a; Shane & Delmar, 2004). An additional study showed that those firms engaging in legitimizing activities were less likely to disband (Delmar & Shane, 2004).

Finally, Brush, Edelman, and Manolova (in press) examined the behaviors of nascent entrepreneurs using and then extending the Katz and Gartner (1988) properties of emerging organizations framework. They found that all of the four properties are important to the start-up effort and that the more properties (behaviors) in which nascent entrepreneurs engaged, the greater the likelihood they were to start a new organization. However, counterintuitively, their findings also suggest that the intention to start a new firm (intentionality) does not necessarily precede nascent entrepreneurs engaging in other organizing activities and that the rapidity through which nascent entrepreneurs moved through the start-up process was not a determinant of start-up success.

ORGANIZATIONAL EMERGENCE INDICATORS

While conceptually simple, measuring organizational emergence presents scholars with a number of empirical challenges. One popular method of determining organizational emergence is to examine organizational exchange. However, even exchange is not straightforward in that there is not one agreed upon measure of exchange that determines emergence. In this section we will examine two popular

methods of determining organizational emergence: first sales and operating success.

First Sale

One popular measure of exchange in the context of organizational emergence is first sale. First sale is a major milestone for a new firm. Not only does the first sale have the effect of generating early cash, which can lead to subsequent financial independence, the firm's first sale helps it gain visibility, increase its organizational legitimacy in the eyes of its customers, begin to gain market share, and increase the likelihood of continued survival (Schoonhoven, Eisenhardt, & Lyman 1990). First sale signals the nascent firm's market entry as an operational new venture, and thus marks the end of the discovery phase and the beginning of opportunity exploitation (Davidsson & Honig, 2003; Reynolds & Miller, 1992).

Many new firms engage in start-up activities and then, when they have developed a viable product or service, they have an exchange event, which is typically the first sale. However, using first sales as an indicator of emergence is problematic. Researchers using event history analysis methodology found that it is also common to see nascent entrepreneurs test their new idea by selling their new product or service *before* they engage in organization-building activities (Manolova, Brush, & Edelman, 2002). Indeed, it may be that starting a new business is predicated upon the nascent entrepreneur's early first sales success. Therefore, it is important to determine when first sales occurred in the overall process of starting a new firm. Conservative scholars have concluded that this difference in the timing of first sales indicates that first sales should be used as an indicator of emergence *in conjunction* with other activities or indicators. For scholars this means that, by itself as a stand-alone measure, first sale is not a reliable indicator of organizational emergence.

Operating Business

While exchange, operationalized as first sale, is one popular way that scholars use to determine organizational emergence, another common measure they use to determine if the new venture has emerged is whether or not the firm is an operating business. While by definition less precise than first sales (because this operationalization of emergence relies on the exchange perceptions of the nascent entrepreneur), this perceptual determination of emergence overcomes many of the problematic issues involved with trying to use first sale as an emergence benchmark.

Operating business is typically used as an indicator of emergence when the researcher is interested in determining if the new venture has had short-term success. Again, while conceptually clear, this measure of emergence also has a number of difficulties associated with its usage. Principally, because it is based on the perceptions of the nascent

entrepreneur, the researcher is less able to determine the precise stage of emergence of the new venture. Consider, for example, that one nascent entrepreneur may assert that her new venture is an operating business, while the same set of circumstances may be interpreted by another nascent entrepreneur as a new venture that is still trying but is not yet operational. This problem can be overcome with a broad definition of operating, but the cost of this definition is a lack of measurement precision.

As indicated by the above discussion, using exchange either alone, operationalized as first sales, or as a perceptual measure in operating business is problematic. Even the simple process of combining data that states the business is operating with data that states the nascent entrepreneur is still trying is problematic, given that recent data collection efforts have indicated that some nascent entrepreneurs have been trying to start a new venture for over 20 years (Gartner, Carter, & Reynolds, 2004). One additional interesting perspective on new venture performance splits success and failure into two distinct categories, with success operationalized as either an operating business or not, and failure defined as still trying. The logic in this approach is that success in starting a new venture is as much about finding out if an idea is viable, and those nascent entrepreneurs who are still trying have not determined the viability of their concept (Davidsson, 2006). While this approach has not been adopted in the empirical literature to date, the logic of this operationalization is compelling and deserves further consideration.

Clearly, no matter how exchange is used as an operationalization of performance, the determination of whether or not the new venture is successful is problematic. While this is not an issue for practicing entrepreneurs, for researchers trying to study emergence phenomena, this issue is cause for considerable concern. Young scholars, looking at emergence from a data-driven perspective, must be aware of the issues related to the measurement of emergence, and clearly state the definitions they are using as well as the limitations of their chosen operationalizations.

ORGANIZATIONAL EMERGENCE: DATASETS FOR FUTURE RESEARCH

To enhance the research on organizational emergence, there are a number of publicly available databases that contain specific data about new ventures. At the most basic level, U.S. census data and Dun and Bradstreet are two important sources of data available to researchers interested in a more statistical approach. Census data is drawn from the IRS tax-withholding records and very often lists new ventures faster than Dun and Bradstreet, a private database. The data contain information about the number of new firms, the number of employees, estimated number of receipts, and annual payroll (Phillips, 2000). While census data alone may not address a particular research question, it is a good

source of contact information and when merged with other databases such as Dun and Bradstreet, can supply an accurate snapshot of entrepreneurial activity in a particular city or region.

Panel Study of Entrepreneurial Dynamics (PSED)

The Panel Study of Entrepreneurial Dynamics (PSED) is designed to investigate the earliest stage of the organizational life cycle. PSED looks at the process of new business creation, or “the number and characteristics of nascent entrepreneurs who attempt to start businesses and the likelihood that such attempts will result in the formation of new businesses” (Gartner, Shaver, Carter, & Reynolds, 2004, p. ix). Nascent entrepreneurs are defined as persons who have not received a positive cash flow from the new business for more than three months. This decision rule was established in order to differentiate new businesses “in the process of emergence” from already established new businesses.

PSED consists of one initial and three follow-up phone and mail surveys, which track a nationally representative sample of nascent entrepreneurs over the course of five years. The idea was to track the number and characteristics of individuals who attempt to start up a business, as well as the characteristics and outcomes of the entrepreneurial start-up process. The dataset combined respondents’ answers to survey questions from the four interview waves of the study. Thus, for each respondent the dataset contains information whether or not a specific start-up activity was undertaken over the course of the study, and if so, in what month and year it was undertaken. For example, at the time of the initial data collection (Wave 1 of the phone interviews) a respondent may have reported that she had not completed a business plan, but may have subsequently reported that a business plan had been completed (at the time of Waves 2, 3, or 4). Researchers would count that a business plan had been completed regardless of the timing of this start-up activity.

The PSED study identified individuals who reported that they were trying to start a new business within the 12 months preceding the initial wave of the study (Wave 1 of the phone survey), which took place in 1998–1999. The question regarding the perceived outcome of the entrepreneurial initiative (whether the nascent entrepreneur believed the new business was already operating, an active start-up, an inactive start-up, or no longer being worked on by anyone) was asked in the follow-up waves of data collection (e.g., in Waves 2, 3, and 4 of the phone survey), which took place, as follows: Wave 2—in 1999–2001, Wave 3—in 2001–2003, and Wave 4—in 2003. If a nascent entrepreneur reported that the new business was already operating or that it was no longer being worked by anyone, their case was not tracked from that point on. If, however, a nascent entrepreneur reported that the business was still a start-up (active or inactive), the case was tracked in subsequent

data collection waves. Thus, for each initially identified nascent entrepreneur, the data set contains information on the outcome of the start-up process over the course of 5 years (1998–2003).

The phone and mail survey gathered different information from respondents. The phone survey was more focused on demographic characteristics of nascent entrepreneurs as well as on the start-up team and the start-up activities and behaviors. In contrast, the mail survey concentrated on the cognitive aspects of start-up and asked questions about the aspirations of individual entrepreneurs, their reference groups, and career reasons about why they choose to become an entrepreneur.

While the phone survey and mail survey complement each other in that they each provide valuable but different information about nascent entrepreneurs, a number of nascent entrepreneurs chose to participate in the phone survey only, hence there is less data for evaluation in the mail survey. Another broader issue with PSED data that affects both the phone and the mail survey is missing data. A number of important questions have low response rates and thus are problematic to include in a systematic study of new ventures.

The PSED dataset has produced a number of interesting findings. In the area of minority entrepreneurship for example, the PSED has shown that Blacks are 50% more likely to engage in start-up activities than Whites and that Hispanic men are slightly more likely than White men to be involved with start-up. In addition, education significantly predicts nascent entrepreneurship, particularly for Blacks and Hispanics. Specifically, approximately 26 of every 100 Black men and 20 of every 100 Hispanic men with graduate education experience report efforts to start a new business. This compares to 10 of every 100 White men with graduate education experience.

Given the widespread interest in the PSED dataset, a number of volumes specifically devoted to nascent entrepreneurs have been published. Gartner et al. (2004) edited a book titled *The Handbook of Entrepreneurial Dynamics: The Process of Organization Creation* that details the PSED data collection process. This book provides researchers with the theoretical background of many of the variables in the PSED dataset and is an indispensable guide to navigating the data. In addition, two recent monographs in the *Foundations and Trends in Entrepreneurship* series have been published about nascent entrepreneurs and the PSED data. The first titled *Nascent Entrepreneurs* by Davidsson (2006) has an extensive review of over 75 papers on nascent entrepreneurship, while the second titled *New Firm Creation in the U.S.: A PSED I Overview* by Reynolds (2007), provides detailed statistical analysis of the PSED variables across the four waves of data.

Finally, through the sponsorship of the Kaufmann foundation, efforts are underway to collect data for the PSED II. This second study is a focused attempt to study the start-up teams and organizing behaviors of nascent entrepreneurs.

While longitudinal in nature like the PSED I, PSED II does not include a mail survey and so is limited to data that can be collected over the phone. Data collection for PSED II is ongoing and results are currently not available.

Global Entrepreneurship Monitor (GEM)

The Global Entrepreneurship Monitor (GEM) program is an ongoing compilation of data about entrepreneurship start-up efforts globally. The program began in 1999 with data collection efforts in 10 countries, and by 2006 had grown to encompass entrepreneurial activity in 39 countries. The objectives of the GEM project are to (a) measure difference in the level of entrepreneurial activity between countries, (b) uncover factors determining the levels of entrepreneurial activity, and (c) identify policies that may enhance the level of entrepreneurial activity (Minniti, Bygrave, & Autio 2006). Key findings from the GEM reports indicate that there are systematic differences in rates of entrepreneurship across countries. However, contrary to popular belief, the relationship between high levels of entrepreneurship and economic growth is not consistent as GEM findings indicate that there are a few highly entrepreneurial countries with low economic growth. In addition, the reports highlight a number of national features and characteristics associated with entrepreneurial activity.

In addition to the global report, the GEM group also produces a number of smaller reports on subgroups of entrepreneurs that may be of interest to researchers and policy makers. In 2005 these included special reports on high-expectation entrepreneurs and on women entrepreneurs. Researchers interested in conducting a finer grained analysis can examine entrepreneurship in a particular country or regional cluster accessing the data through a country specific report. Traditionally GEM has limited its data collection efforts on early stage entrepreneurs, however, in 2005, the focus of GEM was expanded to include characteristics of established business owners as well as the degree of innovativeness, competitiveness, and growth expectations of both early-stage and established ventures (Minniti et al., 2006). Summary and full GEM reports are available on the Internet or through the two sponsoring institutions, Babson College and the London Business School.

CONCLUSION

There is a considerable amount of scholarship in the area of emerging organizations. Researchers have developed organizing frameworks, and have extensively explored *what* entrepreneurs do—their start-up behaviors and activities—as well as *who* entrepreneurs are—their traits and cognitive attributes. However, despite the work that has been done in this area, many research questions remain for new scholars to explore.

In the area of *what* entrepreneurs do, there are still a number of questions surrounding start-up activities. While most

scholars agree that start-up is not a linear process, studies so far have primarily employed linear methodologies in their analysis. Different methodologies, such as ethnographic studies, would add much to the field of study but not only to explore what entrepreneurs do, *why* they do what they do in terms of competitive forces or legitimacy building, and *how* often they engage and then reengage in the same activities are equally compelling questions for study. For example, it seems quite reasonable to assume that the process of obtaining credit from suppliers, looking for start-up financing, or obtaining raw materials are all activities that must be undertaken multiple times. However, what is not clear is the temporal pattern or possible rhythm that successful entrepreneurs may develop when undertaking these activities. Ongoing ethnographic studies may uncover such patterns.

Who entrepreneurs are is also an area where alternative methodologies such as in-depth case studies or ethnography could greatly add to our understanding. While entrepreneurial traits are relatively easy to study, they have done little to further our understanding of what makes an individual a successful entrepreneur. Coupling what entrepreneurs do with who they are in terms of their cognitive abilities would be a valuable contribution.

Finally, more attention needs to be paid in the start-up process to who entrepreneurs know. Social capital is an area that currently receives a great deal of attention when firms are in the growth stage. Less attention, however, has been paid to social capital of firms at their inception. Additional studies showing the benefits of social capital, both from a competitive perspective as well as from a legitimacy building perspective would be of great interest.

While the study of young organizations is inherently an interesting one, adopting a particular focus on emerging organizations is especially so. Emerging organizations, unlike their small firm or growing organization counterparts face unique challenges that seem almost insurmountable to the casual observer. However, data indicates that not only are many people interested in starting their own firms, but that young organizations are the engines of growth for developing as well as developed economies. Therefore, engaging in the study of these dynamic new firms is not only in the best interest of the young scholar, but also is in the best interest of society in general.

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CORPORATE ENTREPRENEURSHIP

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Growth, innovation, and flexibility are the main traits associated with entrepreneurship. Both theorists and practitioners consider these traits as desirable not only for entrepreneurial ventures, but also for established corporations. In the Schumpeterian view, however, the transition from a new venture to an established firm is associated with a descent of entrepreneurial spirit and an ascent of bureaucratic management. The integration of theories of organizational design and entrepreneurship results in the concept of corporate entrepreneurship (CE) that focuses on entrepreneurial behavior in larger established organizations.

The concept of CE has gained considerable recognition over the past three decades. Its popularity stems from the varied contributions CE can make to a firm's financial and nonfinancial performance. Thus, CE can improve financial indicators of performance, such as returns on assets and company growth. With regard to nonfinancial outcomes, CE facilitates collaboration, the renewal of operations, and the creation of new products, services, and processes, thus improving the firm's competitive position. Moreover, CE activates organizational learning that is crucial for acquiring new competencies and capabilities that facilitate the exploration of new growth options beyond its traditional markets and industries.

However, the expansion of the term entrepreneurship beyond its classical use raises several questions that will be answered in this chapter:

- Which environmental and organizational conditions call for CE?
- What are the strategic intents that CE aims at, and which internal key variables affect the design and outcomes of CE? How can CE be managed appropriately?
- How does CE affect firm performance, and what factors influence the CE-performance relationship?

BACKGROUND

A new competitive environment is taking shape in the 21st century. The following paragraphs discuss the resulting challenges for business development in the 21st century and align these to the current situation of established organizations.

21st-Century Competitive Environment Challenges

Managers today face major strategic discontinuities that are changing the nature of competition. The technological revolution and increase in globalization represent major challenges to companies' ability to remain competitive. For instance, the digital revolution in the form of electronic business processes conducted via the Internet is altering the fundamentals of how companies run their businesses. The recent strategic discontinuities include the elimination of

industry boundaries, coalescence between industrial and service businesses, computer-aided design and communication, and the opening of global markets. In many cases, these discontinuities occur simultaneously and are difficult to predict. Moreover, firms encounter these changes coexistent to intensive foreign competition in domestic markets.

In this complex competitive environment, uncertainty and discontinuous, abrupt change are the only constant. Change and uncertainty may cause serious problems to those companies, which rely on the time-tested behavior of the past and are not able to adapt to the new competitive environment. On the other hand, change and uncertainty imply major opportunities to those firms able to respond to the dynamically changing conditions by continuously adjusting their purpose and shape. In the 21st century, organizations should not solely respond to preordained environmental conditions, but should instead influence and actually create their environment by innovation. Facing unrelenting discontinuities, companies have to develop new strategies and organizational designs to gain or maintain a competitive advantage. Organizations must consider learning to be of critical importance to stay in sync with persistent change. Organizations have to develop and maintain strategic flexibility in this exceedingly complicated environment. The 21st-century environmental conditions call for building dynamic core competencies, focusing on and developing human capital, implementing new contemporary organizational structures and cultures, as well as using and inventing sophisticated technology. In short, the new competitive environment requires new types of organizations and leaders to assure survival and gain in global market leadership. Firms may be able to benefit from the new competitive environment if they are able to identify and exploit the opportunities of uncertainty.

21st-Century Organizational Problems

We can observe a substantial maladjustment between organizational characteristics and requisites of the 21st-century competitive environment. In order to facilitate survival and progress and overcome Stinchcombe's *liabilities of newness* (and therefore competitive disadvantages compared to established companies), entrepreneurs have to install structures, systems, controls, rewards, and procedures—they have to transfer the entrepreneurial venture to a managed firm. However, along with years of installing routines, structures, and systems emerge bureaucracy, conservative tendencies, risk avoidance, and a focus on proven procedures as the dark side of striving for efficiency. The former can become so ingrained within an organization that they might cause serious problems with regard to flexibility and change. The reluctance to change due to evolutionary maturation is widely known as *liability of age*. This organizational inertia is threatening the organization's survival and, ironically, may result to

some degree from the very congruence that made a firm successful in the past. Organizations that fit best to a given environment at a certain time tend to be successful. When the environment changes, however, the organization's success has led to structural and cultural inertia, which retards the organization from executing necessary changes along with the competitive environment. In other words, internal forces for stability that originate in a company's past and present success might cause future failure. Consequently, a tightened culture within an organization is one of the main reasons for short-term success and potential long-term failure.

Increasing bureaucratization and goal displacement, however, are not inevitable phenomena every organization is destined to experience during its development. In order to enable strategic renewal, revitalization, or business opportunity seeking and exploiting, firms have to overcome the strong internal forces for stability. Entrepreneurial researchers have developed possible solutions to help tackle organizational inertia. The stream of research that analyzes entrepreneurial phenomena on the organizational level of established companies is labeled CE.

FROM ENTREPRENEURSHIP TO CORPORATE ENTREPRENEURSHIP

Traditionally, entrepreneurship is defined as and is limited to the founding of a new venture by an individual actor. The development of CE is based on the shift from the emphasis of entrepreneurship research to the firm, instead of the individual. Gartner is often cited as being the first to shift the focus of entrepreneurship to the firm level by interpreting entrepreneurship as the creation of new organizations, by individuals or by an organization. Reflecting the underpinnings of Kirzner and Schumpeter, this definition lacks aspects such as innovation of new combination or exploitation of opportunities, which are both decisive with regard to the creation of competitive advantage. A broader definition holds entrepreneurship as the creation of new economic activity that subsumes all activity that is new to an organization and changes its offerings on or position in the market. Thus, CE does include but is not limited to the creation of new ventures.

The firm-level approach to entrepreneurship is consistent with classical economics, in which an individual engages in an entrepreneurial venture, since individuals as well as firms, regardless of age or size, can undertake new economic activity and thus be entrepreneurial. In contrast to individual entrepreneurs, established companies hold a firm base of traditional products and customers, which they have to defend against competitors and economic downturn and, moreover, must respect stakeholders' interests when pursuing new entrepreneurial opportunities.

Following this argument, CE must chase several distinct strategic intents, and CE research must include multiple underlying levels.

INTENTIONS OF CORPORATE ENTREPRENEURSHIP

There is a growing consensus in research that CE follows three major intentions: innovation, venturing, and strategic renewal. While the strategic value of these activities seems to vary from one industry to another, the three intentions of CE form a constellation of activities that facilitates the sustainable progress and growth of a firm.

The first intention of CE is *innovation*, which, in general, describes the introduction of something new to the market. Innovation occurs in varying degrees, ranging from new-to-the-world products and services to minor improvements or adjustments or new applications of an existing product or process. Innovation is based on the firm's commitment to and investment in creating new products, services, and processes, which all may lead to the creation of new business models. Thus, innovative activities aim at the development of new dominant designs that may profoundly change industries such as Google's search algorithm, which almost completely replaced prior searching solutions. A bureaucratically managed organization is unlikely to achieve such a radical innovation.

Sharma and Chrisman (1999) highlight that innovation usually occurs in concert with venturing or strategic renewal. In the absence of both, however, to be entrepreneurial the innovation must be of the Schumpeterian variety such as an original invention or idea transferred into a commercially usable form that is new to the market and has the potential to transform both the competitive environment and the organization itself.

The second intention of CE is *venturing* or corporate venturing, respectively. According to Sharma and Chrisman (1999), venturing refers to corporate entrepreneurial efforts that follow from or lead to innovations that exploit new markets, new product offerings, or both. It may or may not result in the formation of new organizational units (e.g., new divisions). Moreover, these ventures may or may not reside within the existing organization. While internal venturing activities lead to the creation of new organizational units within the current organization, external corporate venturing occurs when new business creation resides outside the boundaries of the existing organization. External corporate venturing creates autonomous or semi-autonomous organizational entities. Commonly used forms are joint ventures, spin-offs, and venture capital innovations, which vary in the degree of separateness from the parent company.

Corporate venturing activities serve multiple purposes beyond the creation of new businesses. For instance, venturing leads to the development of new organizational competencies and capabilities as well as knowledge about distant markets and industries, and keeps the organization alert to various business opportunities outside its current operations. Additionally, several risks are associated with corporate venturing. First, it often takes the company away from its traditional core competencies, which leaves it vul-

nerable to competitive attacks. Second, the integration of existing and new businesses may be difficult due to differences in cultures, goals, and strategic priorities. Third, new ventures take away resources from current operations and thus results in another source of tension within the organization.

In order to avoid falling for these risks, successful corporate venturing necessitates managerial skills to nurture both existing and new businesses. Furthermore, because many new ventures are cross-divisional in nature, they demand the broad representation of various units in the company. For the new venture, clear and specific goals and milestones that are evaluated on a regularly basis have to be set. In doing so, the organization must consider that new ventures need time to develop until they influence the organization's financial performance.

The third intention is *strategic renewal*. The premise behind this strand is that firms need to adapt persistently to the ever-changing environmental conditions in order to ensure progress and growth. Therefore, strategic renewal subsumes corporate entrepreneurial efforts that lead to significant changes of a firm's business, corporate strategy, and structure. These changes usually base on innovation and alter preexisting relationships within the organization or between the organization and its environment. Strategic renewal intends to revitalize the firm's operations, to build new competitive skills and, to some extent, to change its strategic thrust. Strategic renewal may challenge prevailing cultural assumptions and embody dramatic changes in terms of structure and strategy. It may influence all hierarchy levels and business units. For instance, these changes may result in the revision of systems, routines, and processes and may alter the technological configuration of the organization. The effect of strategic renewal on a company's financial performance might be relatively moderate in the short run due to the high initiation costs and the time organizational members need to adapt to the reconfiguration, but will amplify gradually with the diffusion of the new setting.

INTERNAL DIMENSIONS OF CORPORATE ENTREPRENEURSHIP

In effectively modeling firm-level entrepreneurship, key variables in the individual realm, the organizational structure and culture, and the overall strategy affect the design and outcomes of CE. Consequently, the subsequent paragraphs will proceed along these lines.

Corporate Entrepreneurship and the Individual

Some scholars regard CE solely as the extension of individual entrepreneurship to the context of existing organizations because all entrepreneurial activities—within or outside a corporate context—originate in the creative acts of individuals. Organizations striving for the benefits of CE,

therefore, need employees who are able to think and act entrepreneurially. Pinchot (1985) uses the term *intrapreneur* to describe dreamers who do this. These people take hands-on responsibility for creating innovation of any kind within an organization. In his definition of corporate entrepreneurs, Kierulff (1979) argues that these persons or teams examine potential new market opportunities, obtain resources to meet attractive opportunities, and initiate production as well as sales. Thus, corporate entrepreneurs start new business ventures within the corporation.

Of course, the individual alone is not sufficient to make CE efforts successful. Additional prerequisites for prosperous entrepreneurial activities can be found in environmental and organizational aspects as several CE models in the academic literature suggest. This broader focus, then again, does not negate the important role of the individual in corporate entrepreneurship. For instance, *precipitating events* in the environment of the firm may in fact stimulate entrepreneurial activities, but only if they are perceived as business opportunities by individual members of the organization. External challenges, however, do not necessarily trigger constructive reactions, since cognitive constraints of the individuals involved affect their opportunity-recognition capabilities and subsequent action. Consequently, an entrepreneurial-orientated firm needs employees who are capable of perceiving entrepreneurial opportunities. Such opportunity recognition capabilities are, for instance, determined by prior knowledge of industries, markets, or customers. Moreover, an individual's alertness to opportunities is conditioned by his or her intelligence, creativity, optimism, and perception of risk.

Of course, opportunity perceiving is a *conditio sine qua non* of potential success; it is, however, by no means a sufficient condition. In their seminal paper, Shane and Venkataraman (2000) posed not only the question "why some people, and not others, discover" (p. 218) entrepreneurial opportunities, but also asked why some people, and not others "exploit these opportunities" (p. 218). Equally, an entrepreneurial company not only needs employees perceiving opportunities, but also needs employees actually behaving in an entrepreneurial way upon the discovery of such opportunities. Consequently, an entrepreneurial orientation (EO) firm needs people who execute—people who are not only capable of perceiving opportunities but who also strive to exploit opportunities. This behavior is termed opportunity exploitation willingness (OEW).

Yet, in an organizational context, the transformation of such entrepreneurial ideas into successful innovation is a very complex undertaking due to restrictions concerning access to resources, autonomy of the subordinate, and emotional support to intrapreneurs. Morris and Kuratko (2002) address this problem by claiming that intrapreneurs do not necessarily need to be the inventors of new products, services, or processes, but they must be able to turn innovative ideas into profitable results. Consequently, conforming to

prevailing definitions of entrepreneurship, putting the pursuit of opportunities at the very heart of entrepreneurship theory, perceiving business opportunities and subsequently developing these into profitable results may be considered as an indispensable prerequisite for employees in entrepreneurial organizations.

Corporate Entrepreneurship and Organization

Given the advantages associated with CE, firms have to identify effective ways to stimulate and spur organizational members' entrepreneurial thinking and acting. A proentrepreneurship organizational architecture recognizing structural and cultural aspects is crucial to encourage individual and collective entrepreneurial behavior. In their pure forms, however, entrepreneurship and organization are bipolar opposites and blending the two in a single firm seems nearly impossible. In the last two decades, there has been a growing number of studies examining ways to organizationally include discovering and pursuing of opportunities in a corporate environment that is focused mainly on the efficient exploitation of existing resource combinations. Concerning the locus of entrepreneurship, Birkenshaw (2003) suggests a distinction between dispersed and focused entrepreneurship. The former approach refers to the realization of CE at various locations within the organization, while the latter separates corporate entrepreneurial activities into specialized units.

Thus, some companies opt to formalize their CE efforts by creating units that support and champion entrepreneurial activities. Creating separate organizational units, such as new business development, brings together entrepreneurial individuals looking for creative ways to develop new businesses, markets, or products. In pursuit of business opportunities, these entrepreneurial units benefit from being small and flexible. This approach even shields entrepreneurial processes against the negative impact of bureaucratic cultures in large hierarchical systems. In a way, large established corporations mimic the advantages of small firms by dedicating separate units to entrepreneurship. The idea of bringing together entrepreneurial individuals may benefit significantly from interfirm strategic alliances. In joint ventures, research and development (R&D) alliances and learning alliances, creative employees from different firms may collaborate and thus create new ideas and products. Furthermore, a centralized approach makes it easier for firms to track their investments and evaluate the results gained from CE efforts.

Other companies follow a more dispersed approach to CE; they distribute entrepreneurial activities across the whole organization. In these companies, entrepreneurial thinking and acting are not restricted to a particular unit (e.g., new business development or R&D), but are scattered over all parts of the organization. The underlying assumption of this approach is that each employee has the capacity for both entrepreneurial and managerial behavior. Companies

use incentives and seed money to encourage the entrepreneurial activities of the individual members of the organization. These efforts capitalize on and stimulate employees' interest in developing and championing innovative ideas that benefit both their units and the firm as a whole. The meaning of the concept of dispersed CE is enriched by connecting it to the discussion on organizational form, in particular with regard to the way an organic design (in the sense of Burns and Stalker, [1961]) of the organization supports an entrepreneurial culture. An entrepreneurial culture appears to provide an antecedent to entrepreneurial initiatives throughout the organization. Organic organization structures promote discovery and risk taking, which are crucial for entrepreneurial initiatives. They are characterized by both informal and formal communication across divisional (even hierarchical) boundaries and build support and momentum for new ideas within the firm. A sense of autonomy gives employees the freedom to take initiative and act. Senior management commitment and, in particular, political, organizational, and financial support from managers—especially when ideas fail—allows employees to explore innovative ideas without fearing damage to their reputation or, worse, the loss of their jobs. Thus, dispersion of entrepreneurship throughout the organization requires conscious efforts to create and maintain an entrepreneurial culture.

Informal initiatives of individual members often complement established formal systems and fill voids that exist in them. Once their viability has been proven, informal activities may be integrated into the company's formal CE projects. Thus, individual, informal activities are often the forerunners of formal CE venture programs. Still, conflicts might arise between formal and informal entrepreneurial processes where employees pursue ideas that either clash with the formal organizational agenda or, alternatively, are suppressed by managers because they do not understand or like the ideas. Therefore, it is important to create a system to evaluate informal initiatives and determine which projects have the potential to advance company performance.

Corporate Entrepreneurship and Strategy

While the fields of entrepreneurship and strategic management have developed largely independent of each other, in their basic principles, both focus on how firms adapt to environmental change and exploit opportunities created by uncertainties and discontinuities in market development. Thus, entrepreneurial and strategic perspectives should be integrated to examine strategies that facilitate progress and sustainable growth. This integrative approach, describing entrepreneurial action within a strategic perspective, is called strategic entrepreneurship or entrepreneurial strategy. In the beginning of the 21st century, a debate on the notion of *entrepreneurial strategies* appeared in several research issues and works (e.g., Ireland, Hitt, Camp, & D. L. Sexton, 2001) and substi-

tuted, to a certain extent, the general discussion about CE in the 1990s. The purposed debate is how to adopt entrepreneurial mindsets and act toward strategic orientation in a way that the implementation of entrepreneurial strategy in which entrepreneurship becomes the *dominant* logic fosters the creativity and initiatives of employees and also the company's performance.

Strategic management theorists have suggested that an entrepreneurial approach to strategy making may be vital for organizational success. For instance, Miller and Friesen (1982) posit that entrepreneurial companies try to obtain a competitive advantage by habitually making radical innovations and taking risks. Relating it to leadership style, Mintzberg (1973) identified such (entrepreneurial) behavior as one of the three modes of strategy making. Proactive, entrepreneurial strategy making seems to represent an important strategy-making process, in particular in fast-changing and competitive environments. Thus, to build entrepreneurship into an organization is essentially a task of strategic decision makers.

In its essence, strategic entrepreneurship is the integration of entrepreneurial (i.e., opportunity seeking) and strategic (i.e., advantage seeking) perspectives in developing and taking actions designed to sustain progress and growth. It includes a set of commitments and actions framed around entrepreneurial processes that firms design and use to develop current and future competitive advantages in promising product-market or technological arenas. Using CE strategy as a primary means of strategic adaptation reflects the firm's decision to seek advantage through entrepreneurial initiatives on a sustained basis. Strategic entrepreneurship is a fundamental orientation toward the pursuit of opportunity and defines the essence of the firm's functioning. Therefore, CE strategy is a shared ideology that has more to do with commitments to ways of acting and responding than with the firm's specific position within its external environment. Thus, CE strategy is not to be *found* at one level or unit within the organization. Rather, it embraces the whole organization and is ingrained structurally and culturally as part of its core being. In short, the term strategic entrepreneurship refers to CE as a holistic concept of strategic management.

MANAGING CORPORATE ENTREPRENEURSHIP

While the last paragraphs referred to the content of CE by addressing *what* is undertaken, the following paragraphs represent key entrepreneurial decisions that answer the question of *how* CE is undertaken. Scholars have paid attention to the question of how to manage entrepreneurial processes in established companies since the 1970s. This stream of research generated three partly overlapping approaches that have gathered broad attention: entrepreneurial management, EO, and ambidexterity.

Entrepreneurial Management

Stevenson (1983) conceptualizes entrepreneurship as an opportunity-based management approach. He holds that entrepreneurship can help organizations remain vital and can contribute positively to firm- and society-level value creation. In line with former approaches of scholars like Khandwalla (1977) or Mintzberg (1973), in his conceptualization, Stevenson contrasts entrepreneurial management styles with administrative management styles. Entrepreneurial firms (promoters) pursue and exploit business opportunities without regard to resources currently controlled, while administrative firms (trustees) strive to make the most efficient use of their resource pools. Certain internal and external factors push established firms toward either entrepreneurial or administrative behavior.

An operationalization of Stevenson's reasoning by Brown, Davidsson, and Wiklund (2001) results in a categorization of a firm's management behavior along eight dimensions. Two of them, strategic orientation and commitment to opportunity, constitute the nucleus of the construct. The other six dimensions, commitment of resources and control of resources, management structure and reward philosophy, entrepreneurial culture and growth orientation, just have strengthening or weakening influences on the former.

Strategic orientation describes the factors driving the creation of strategy. The entrepreneurial strategy is driven solely by the business opportunities that exist regardless of the resources, which may be required to exploit them. Once an opportunity is chosen to exploit, the required resources may be acquired. Conversely, the administrative strategy aims at utilizing the resource pool of the firm efficiently. The existing resources serve as a starting point and only business opportunities that fit into these are relevant to the firm. The *commitment to opportunity* describes the way companies react to emerging business opportunities. Entrepreneurial organizations are action oriented and are able to commit to action rapidly. Contrary, administrative organizations are analysis oriented and their behavior tends to be slow and inflexible. Decisions are made in peripatetic processes including multiple decision constituents, negotiated strategies, and a focus on risk reduction. Therefore, these organizations may be unable to pursue opportunities characterized by a short window of opportunity. An opportunistic *commitment of resource*, as the first subdimension, describes the attempt of entrepreneurial organizations to maximize value creation by exploiting opportunities while minimizing the resources applied. The firm commits just small amounts of resources in a multistep manner with minimal risk exposure at each step. This allows the firm to commit investments in a very flexible manner. Conversely, an administrative management of resources is characterized by a deep analysis in advance with large, but nearly irreversible, investments. Concerning the control of resources, entrepreneurial firms reduce the resources they own and make use of others' resources including financial

capital, intellectual capital, and skills and competencies, by subcontracting or outsourcing. Contrary, administrative organizations favor control of resources by ownership. The *management structure* or organization's structure, respectively, of entrepreneurial firms is organic. This includes flat hierarchies and multiple informal networks. Organic structures are designed to convey flexibility as well as opportunity creating and seeking. Administrative organizations are mechanistic structures characterized by formalized hierarchies, clearly defined lines of authority, routines, and control systems. The *reward philosophy* of a firm influences individuals' behavior. Entrepreneurial-oriented firms are interested in creating and harvesting wealth and, therefore, base remuneration on how individual members contribute to the creation of wealth. Thus, compensations are linked to the success of the individual, his or her team, and/or the whole organization. Administratively managed firms, on the other hand, relate remuneration to the amount of resources under the individual's control (e.g., people, assets) and with seniority. Thereby, individual success is remunerated with promotion to a position with control of more resources.

In addition to the above-mentioned dimensions, Stevenson's (1983) later work suggests two more dimensions regarding growth orientation and entrepreneurial culture. Entrepreneurial firms desire rapid growth and, conveniently, it is said that entrepreneurial management is related to growth in a positive way. Administrative firms try to obtain growth as well, but at a slower and steady pace. In their believing, administrative management will help create this kind of growth. Concerning the culture of a firm, entrepreneurial firms aim to create an *entrepreneurial culture* characterized by creativity and experimentation resulting in new ideas and innovations. Administrative firms create a work atmosphere with just enough individual activity to match the possessed resources.

In summary, Stevenson (1983) describes the dichotomy of two kinds of management styles: entrepreneurial management versus administrative business. His reasoning of entrepreneurial management puts opportunity-based behavior at the center and suggests that this posture is crucial to the long-term vitality of the economy. EO, the next discussed approach to firm-level entrepreneurship, partly overlaps with Stevenson's opportunity-based concept, albeit highlighting other aspects of an entrepreneurial proclivity.

Entrepreneurial Orientation

If strategic leaders and the culture of a given firm together generate a strong motion to innovate, to accept risks, and aim for new entrepreneurial opportunities, one can speak of a high EO. Thus, EO is a term that addresses the mindset of firms. An entrepreneurial posture can be regarded as a firm-level strategy-making process that companies use to enact their organizational purpose, sustain their vision, and create competitive advantages. Building EO into an organization is essentially a task of strategic

decision makers and represents a configuration of policies, practices, and processes that provide insights into the bases of entrepreneurial decisions and actions. Miller (1983) defines an EO firm as one that “engages in product market innovation, undertakes somewhat risky ventures, and is first to come up with proactive innovations, beating competitors to the punch” (p. 771).

The salient dimensions of EO have been derived from an integration of the strategy-making process and entrepreneurship research. Today, there is a strong consensus that five distinct dimensions should measure EO. In his seminal conceptualization, Miller (1983) identified the first three dimensions of EO, which have been used consistently in academic literature. These dimensions address risk taking, innovativeness, and proactiveness of a firm. While today most studies treat EO as an independent variable, Miller originally sought to identify the antecedents of entrepreneurial behavior on the firm level.

First, *risk taking* describes firms that act and decide although faced with considerable uncertainty. It involves taking bold actions, venturing into the unknown, borrowing heavily, and committing significant resources to ventures with uncertain outcomes. These firms prefer the typical relationship of high risk and high return in an investment context. The tendency to accept risky conditions on the organizational level can be facilitated by a high-fault tolerance. Second, *innovativeness* addresses the capability and willingness to develop and execute new initiatives (for instance toward new processes, new products, or new markets) and is associated with a predisposition in creativity and experimentation as well as high R&D-investments. Third, *proactiveness* refers to behavior aiming at anticipating and foreseeing future needs and developments. It describes an opportunity-seeking forward-looking perspective characterized by the introduction of new products and services ahead of the competition. In the early 1990s, the focus of EO research changed and the three original dimensions were treated for the first time as an independent variable, which was linked to performance as the variable to explain.

Lumpkin and Dess (1996) extended the construct by adding two further dimensions: competitive aggressiveness in distinction to proactiveness and autonomy. Entrepreneurial firms and start-ups are keenly concerned with opportunities and threats in the external environment because these factors may support or limit their success. The proactiveness dimension of EO captures the response to an entrepreneurial opportunity, but omits the question of how EO firms respond to threats. *Competitive aggressiveness* reflects this aspect of EO and therefore describes the intensity of a firm’s efforts to outperform rivals and is characterized by aggressive responses to the actions of competitors. Last, the *autonomy* dimension of the EO construct pertains to the degree to which individuals are allowed to autonomously pursue entrepreneurial opportunities—this is, independent action undertaken by entrepreneurial leaders or teams di-

rected at bringing about a new venture and seeing it to fruition. Autonomy is said to be facilitated by, for instance, flat hierarchies or a high degree of delegation within an organization.

Apparently, the EO construct transfers some of the well-known categories describing the individual entrepreneur to the organizational level—such as an individual’s attitude toward risk or McClelland’s (1953) need for achievement of individuals, which overlaps with competitive aggressiveness and proactiveness on the organizational level. Just as entrepreneurship researchers of the past have been trying to correlate an individual’s traits with entrepreneurial behavior and even—regrettably unsuccessful most of time—to entrepreneurial success, today’s entrepreneurship researchers aim at elucidating the role of organizational EO as an independent variable.

There have been strong debates in academic literature as to whether or not the dimensions of EO are independent or covary under certain conditions. Some suggest the EO construct is best viewed as a unidimensional concept. Others have argued the dimensions of EO may occur in different combinations. Empirical findings suggest that unique combinations of EO provide more precise explanations of entrepreneurship as firm-level phenomena as well as greater insights into linkage of EO and performance.

In a recent discussion concerning the management of a firm’s entrepreneurial activities, Dess and Lumpkin (2005) indicate that more may not always be better—that is, each EO dimension bears potential benefits for the firm but comes with its own pitfalls as well. No single dimension should be developed to an absolute maximum, because of the inherent risk, which is specific to each dimension. The dimensions indeed require a *delicate balance* between too much and too little entrepreneurial behavior. Therefore, the next paragraphs deal with the balance of entrepreneurial and preservative modes in strategic management.

Ambidextrous Management

Many CE initiatives focus on the question of how to overcome inertia by implementing entrepreneurial processes and behavior patterns but disregard the challenge of simultaneously preserving efficient existing processes. Probably the most discussed concept aimed at filling this gap is called *ambidextrous management* or *ambidexterity*. Ambidexterity integrates seemingly opposing activities within an organization that aim at preserving existing business (*exploitation*) and at the same time discovering entrepreneurial opportunities (*exploration*). Ambidexterity could be defined as the dual management of seemingly opposing tasks forcing managers to accept the challenge of paradox management. The ambidexterity concept has been utilized to describe a variety of possible distinctions. What unifies these distinctions is that the dimensions of ambidexterity are always diametrically opposite of each other. For instance, some scholars see ambidextrous firms

as capable of implementing incremental and revolutionary change at the same time, while others see ambidextrous distinctions in academic literature that address efficiency versus flexibility, differentiation versus low-cost strategic positioning, enabling versus coercive bureaucracy, centrifugal versus centripetal forces, or global integration versus local responsiveness (for an extensive overview cf. Gibson & Birkinshaw, 2004).

Gibson and Birkinshaw (2004) define a particular variation of ambidexterity as a firm's capacity to achieve alignment and adaptability simultaneously at the level of business units. Afterwards, this approach has been dedicated to the business unit level in large, established corporations. Ambidextrous organizations that integrate preservative and entrepreneurial activities are built with the explicit goal to excel both today and tomorrow. To sustain an organization in the long run, organizations need to engage in two fundamentally opposing activities—they need to develop and preserve their existing business and they need to develop and explore their future business. Thus, firms exaggerating one side of ambidexterity either suffocate in conservatism or drown in chaos caused by too much change. What complicates the path toward the attainment of this integrative goal is the necessity to execute both kinds of activities simultaneously. Early conceptualizations of ambidexterity such as Duncan's (1976) did not yet mention this simultaneous pursuit of opposing goals, as is the case in today's academic discourse, but rather recommended a sequential pursuit of such seemingly opposing goals. This sequential pursuit is linked to the notion of *punctuated equilibria*, wherein long periods of exploitation are punctuated by short periods of exploration. The need for a simultaneous balancing of exploration and exploitation through ambidextrous management, however, is well established and commonly accepted.

In essence, if executed well, ambidextrous management is a helpful instrument that—by integrating entrepreneurial activities as a complement to everyday business—can possibly help to deal with organizational inertia and the dynamics in the 21st-century competitive environment, and sustain durable competitiveness. There is a plethora of examples of how established corporations succeeded in building an ambidextrous organization at least at some time in their history. These examples include such renowned firms as Nokia, GlaxoSmithKline, Seiko, Hewlett-Packard, and Johnson & Johnson.

EXPLORING THE CORPORATE ENTREPRENEURSHIP-PERFORMANCE RELATIONSHIP

As mentioned in the introduction, CE can make varied contributions to an organization's financial and nonfinancial performance (e.g., creating new products and goods, learning new skills, renewing its operations). When exploring the CE-performance link, it is essential to recognize the

multidimensional nature of the performance construct. In other words, entrepreneurial activity may lead to favorable outcomes on one performance dimension (e.g., adaptability, flexibility, growth in sales) and unfavorable outcomes on a different dimension (e.g., reliability, efficiency, return on investment) at the same time. Furthermore, there is strong need for balancing short-run and long-term considerations. For example, heavy investments in R&D lead to higher costs instantly, albeit they may lead to product and process innovations and, therefore, competitive advantages in the long run.

In general, most theoretical assertions associate CE with superior performance. However, failed initiatives of opportunity-focused corporations such as Ericsson in the late 1990s, which concentrated almost exclusively on the development of new technologies, lead to the conjecture that a simple monocausal relationship between CE and performance does not exist per se. For this reason, the following paragraphs review the extant literature on the CE-performance relationship and provide possible adjustments to the relationship and a number of explanations about mediating factors.

Theoretical Assertions and Empirical Evidence on the CE-Performance Link

Several contributions propose a positive CE-performance relationship. The bulk of the early supportive evidence, however, was anecdotal and testimonial in nature. There are not only theoretical papers, but also several empirical studies, sustaining these assertions and showing that entrepreneurial firms can indeed perform better in the market. For example, in their pioneering study, Covin and Slevin (1991) confirmed the expected positive relationship of entrepreneurship and performance for large corporations in 1986. Zahra and Covin (1995) found a positive relationship of CE with financial measures of company performance in a long-term study of 108 established companies. They found CE particularly effective among firms in hostile environments, and the relationship tends to grow over time. Wiklund (1999) found a growing body of research that offers overall support to the positive relationship of company performance and EO. Moreover, Zahra, Jennings, and Kuratko (1999) suggest—after reviewing 25 years of firm-level entrepreneurship research—that there is substantial evidence to link CE and performance, and that firms with an EO achieve superior performance.

However, despite these numerous theoretical and empirical findings, the relationship between CE and performance is, to some extent, questionable due to some contradictory empirical findings. A recent meta-analysis of 37 empirical studies conducted by Rauch, Wiklund, Frese, and Lumpkin (2004) show entrepreneurial postures only moderately linked to performance. Moreover, the positive empirical findings mentioned previously are at the same time challenged by a number of studies in which a significant

relationship between CE and performance is not evidenced in the data. Some studies even argue theoretically that entrepreneurial strategy types are more likely to lead to low performance, since CE is reported as being a resource-consuming strategic orientation, requiring extensive investments by the firm.

In addition, most empirical studies on CE are cross-sectional in nature and therefore run the risk of falling for survivor bias. Especially firms scoring high on the risk-taking dimension of an EO might be responsible for this kind of bias. Moreover, although it is a legitimate goal to thwart organizational inertia with higher entrepreneurial efforts, firms pursuing this goal too forcefully tend to face continuous liabilities of newness. That is, they constantly transfer the organization toward a condition that is comparable to the risky beginning of the organizational lifecycle.

For these reasons, the assumption of a straightforward correlation between CE and performance seems to be too simple. Not only do differences in research design and methodological idiosyncrasies lead to mixed empirical findings—admittedly, the CE-performance relationship is moderated by a variety of possible influences. For instance, the model of entrepreneurship as firm behavior by Covin and Slevin (1991) considers different internal, external, and strategic variables influencing CE directly and at the same time moderating its relationship to performance. Guth and Ginsberg (1990) suggest an alternative framework consisting of strategic leadership and organizational and environmental aspects. Following them, to model the EO-performance relationship effectively, key variables in the individual realm, the environment, and the organization itself are not to be neglected if one aims to examine CE in a coherent way.

Environmental Influences on the CE-Performance Link

Of course, the previously discussed appropriate management of CE and the commitment and ability of the individual are strong moderators of the CE-performance link, but considering the findings described in the last paragraph, the influence of the environment has to be recognized as well. In academic literature, actually, some of the strongest findings associate the CE-performance relationship with the external environment. Covin and Slevin (1991) note that the environment has a strong if not deterministic effect on entrepreneurial activity. The environment provides the initial conditions and the context that either facilitates or constrains the prosperousness of entrepreneurial behavior.

Therefore, identifying the proper conditions for entrepreneurial organizations is an important subject in CE research. The relationship between entrepreneurial activities, the surrounding environment, and performance has been discussed in several theoretical contributions and empirical studies. A literature review leads to four environmental factors that can be used to describe the proper entrepreneurial

setting in order to achieve superior performance with an EO. Shane and Venkataraman (2000) state that in order to “have entrepreneurship, you must first have entrepreneurial opportunities” (p. 220). Dynamic environments are more likely to provide many of these opportunities as changing conditions, displace existing bases for competitive advantage, and provoke new explorations of sources of advantage. Stable environments, however, tend to reinforce existing sources of competitive advantage, providing only a few opportunities. Moreover, traditional industries in stable environments allow firms to evolve slowly, meaning there is no direct pressing need for the exploitation of entrepreneurial opportunities. Entrepreneurial opportunities occur in heterogeneous environments marked by multiple market segments with diverse customer characteristics and needs. This diversity possesses a broader scope and multiple opportunities for pursuing corporate entrepreneurship. Environments demonstrating high levels of rivalry between industry competitors and vulnerability to outside influences have also been correlated with corporate entrepreneurship. These harsh conditions, called hostile environments, have to be regarded as a strong incentive for companies to recognize opportunities as a source of competitive advantage. Moreover, the abundance of resources can be observed as a prerequisite for the actual conversion of ideas into innovations. Under these conditions, the external environment presents a greater probability for the existence, a pressing need for the perception, and the resources for the exploitation of entrepreneurial opportunities. Although organizations may conduct entrepreneurial activities in all types of environments, the prospect of positive impacts on performance are, in conclusion, higher in dynamic, heterogeneous, hostile, and abundant environments.

FUTURE DIRECTIONS

The concept of CE includes numerous promising and worthwhile questions that warrant future research. First, considering the pathological consequences of organizational inertia and the large number of approaches addressing the question of how to overcome *existing* inertia, it is indeed surprising that there is almost no research on the topic of avoiding the *emergence* of inertia. Therefore, in contrast to the existing *curative* approaches, scholars could aim at developing *preventive* approaches that may allow firms to avoid falling for the emerging forces of inertia.

Second, most approaches to CE focus on the question of how to overcome inertia and enable opportunity seeking and pursuing by implementing entrepreneurial processes and behavior patterns. However, they disregard the challenge of simultaneously preserving efficient existing processes and defending a firm base of traditional products and customers against competitors and economic downturn. Until now, scholars have focused insufficient attention on the antagonism in strategic alignment depending on the need

for managing both exploitation and exploration. Research on ambidexterity aiming at a balance between preservative and entrepreneurial behavior, for instance, could integrate the dimensions of EO in order to identify optimal levels of entrepreneurship and management.

Third, scholars could explore what factors may augment and inhibit the strength of the relationship between CE and performance. Under what conditions would strong organizational cultures cause core rigidities, and, in consequence, erode innovativeness and discourage risk taking as well as opportunity seeking? Moreover, in how far are reward systems able to facilitate entrepreneurial actions of both managers and employees?

Fourth, research focusing on the link between CE and best practices of leading-edge companies could help scholars to inductively derive theory that can later be tested to confirm or disconfirm extant knowledge. In doing so, they would enhance the viability of descriptive and normative CE theory.

SUMMARY

The 21st-century competitive environment challenges established companies and their strategic leaders to integrate innovation, opportunity seeking, and strategic flexibility in their organizational architectures in order to facilitate survival and progress. Possible solutions that aim at tackling the maladjustment between requisites of 21st-century competition and the organizational setting of established companies characterized by bureaucracy, risk avoidance, and conservative tendencies have been developed in entrepreneurship research. The integration of theories of organizational design and entrepreneurship resulted in the concept of CE that focuses on entrepreneurial behavior in larger established organizations.

This chapter has shown that the concept of CE with its intents on innovation, venturing, and strategic renewal is an applicable response to the challenges of the 21st-century competitive environment. However, CE is not to be *found* at one level or place within the organization. Rather, it is reflected across the organization and ingrained as part of its core being. Therefore, entrepreneurial phenomena on the firm level have to be analyzed on several levels, in particular in the individual realm, the organizational structure and culture, and the overall strategic alignment. The stream of research that focused on the question of how firm-level entrepreneurship can be managed generated three partly overlapping approaches. First, entrepreneurial management puts opportunity-based behavior at the center. Second, EO addresses the mindsets of firms characterizing them as risk taking, innovative, proactive, autonomy conveying, and aggressive in competition. Third, ambidexterity integrates seemingly opposing activities within an organization that aim at preserving existing business (exploitation) and at the same time discovering entrepreneurial opportunities (exploration).

The investigation of the CE-performance relationship shows that, in general, CE is associated positively with performance, though the assumption of a straightforward correlation between CE and performance seems to be too simple. Admittedly, the CE-performance relationship is moderated by a variety of possible influences that may enhance or inhibit the strength of the CE-performance link.

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3

SOCIAL ENTREPRENEURSHIP AND SOCIAL ENTERPRISE

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Social entrepreneurship and social enterprise are topics that have sparked considerable growing interest among leaders in the business, nonprofit, and government sectors as well as among academics in management, nonprofit, and public administration or policy programs. Interest in the academic community can be traced to the late 1970s, which saw the beginning of an agenda among those studying nonprofits and voluntary action to begin examining the relations between the nonprofit, for-profit, and government sectors. This has grown into a major academic focus and now includes theory and research on the limits of each organizational form; their interactions in industries where they coexist; and the blending, blurring, and combining of market and nonmarket structures and organizational forms. Social entrepreneurship touches upon a number of the issues currently being discussed in departments of economics, sociology, and public affairs. More recently, there has been a significant growth in the number of university centers established for the study and teaching of social entrepreneurship, typically in business or public affairs schools in centers for nonprofit study. Among nonprofit practitioners, the interest in social entrepreneurship has focused on the generation of earned income. Nonprofits have a long history of earning income. Nonprofit commercial activities in the past, however, were primarily designed to provide services to constituencies the organization was dedicated to serving (i.e., establishing a used clothing store for the poor). In the United States, this picture changed in the early 1980s. The economic slowdown and social service

budget cuts during the Reagan administration led a number of nonprofits to either consider or initiate earned income ventures to make up for lost government funding. In 2000, the nonprofit sector became concerned about the possibility of further budget cuts from the George Bush administration. In addition, conservative outlooks in and out of government brought a rise in calls for both the nonprofit and public sectors to invest in market-based solutions to social problems, including paying more attention to earned income as a source of financial sustainability. Accompanying this has been a proliferation of consultants and support organizations as well as a variety of funding sources for these market-based solutions. For example, 2007 marked the eighth meeting of the Social Enterprise Alliance. The meeting is a major gathering of those devoted to promoting nonprofit commercialization. The interest in social entrepreneurship has recently taken on global dimensions as well. In addition to those in the United States and Western Europe, active social entrepreneurship agendas can be found in Eastern Europe, Latin America, and Asia. A number of global-level supply-and-demand side factors have led to the increasing interest. On the supply side, Nicholls (2006) cites increased global per capita wealth, improved social mobility, an increase in the number of democratic governments, increased power of multinational corporations, better education levels, and improved communications. Demand-side factors include environmental and health crises, rising economic inequality, spread of a market ideology, and a more developed role for nonprofit organizations. Because the growth

of interest in social enterprise and social entrepreneurship is relatively recent and there are a variety of actors and arenas involved in discussion and practice, it is not surprising that there are a variety of outlooks, opinions, and conceptual formulations. Terminology is an issue. For example, the terms social entrepreneurship and social enterprise are sometimes used interchangeably but other times are not. This has been and continues to be a source of confusion and contention. The term social entrepreneurship is problematic in that at this point, there is no agreement on major aspects of a definition. Essentially, however, when the term is used in a manner consistent with the term entrepreneurship, it refers to a process of the development of a new product or an organization to serve a social need. In contrast, the term social enterprise is a narrower concept and there is general agreement on its definition. It refers to methods of commercial or earned income generation. Some commentators and practitioners hold social enterprise as a key component, if not the essence, of social entrepreneurship, but others do not. In addition, most of the discussion to date has been about social enterprise and not about social entrepreneurship, although this is changing rapidly. As well, a variety of social-enterprise practices and techniques have been developed, which are being used by managers, promoted by consultants and professional schools, and funded by foundations and others. This chapter will proceed as follows. We will first review some basics of entrepreneurship. We will then define social entrepreneurship, examine how it is related to previous thought on entrepreneurship, and consider some of the special considerations entailed in the management of social entrepreneurship. We will conclude by discussing social enterprise and its management.

ENTREPRENEURSHIP

Before discussing social entrepreneurship in any detail, it is useful to consider entrepreneurship as it has been conceptualized and practiced. This is important because the evolving discussion of social entrepreneurship takes the previous conceptualization of entrepreneurship as its starting point. Therefore, at the very least, all of the factors associated with entrepreneurship are potentially relevant to social entrepreneurship as well. A further question would be the degree to which social entrepreneurship should be conceptualized and practiced differently. This leads to the possibility of a useful distinction between “social” entrepreneurship and, as it is now sometimes termed, “conventional” or “commercial” entrepreneurship. Entrepreneurship was first defined in the 1700s. Over the years, a number of different viewpoints toward and definitions of entrepreneurship have developed. Currently, no single definition is accepted by all. Definitions have emphasized a broad range of activities, including the bearing of uncertainty, the creation of new organizations, the exploration of new opportunities, the bringing together of the factors of production, and the

production of new combinations. However, two general orientations toward entrepreneurship have been identified. One is focused on the actions of individuals in the market economy. The economist Richard Cantillon (circa 1730) defined entrepreneurship as self-employment. Entrepreneurs buy at current prices to sell at (hopefully higher) prices in the future. They are, consequently, the bearers of risk. Following this orientation, in 1816 Jean Baptiste Say defined the entrepreneur as one who utilizes all means of production to create profit through the value of the products that are thereby created. These early proponents of entrepreneurship laid the foundation to what has become known as the Austrian School approach to entrepreneurship. The current form of this approach is expressed by Israel Kirzner, who holds that an entrepreneur is motivated by profit and seeks to recognize and act upon market opportunities. This is consistent with Peter Drucker’s definition of an entrepreneur as someone always searching for change, responding to it, and exploiting it as an opportunity. An alternative orientation to entrepreneurship was put forth by Joseph Schumpeter in the 1930s. Schumpeter’s focus was on the entrepreneur as an innovator, on the creative drive itself, and on the impacts of entrepreneurship on industry and the economy. The entrepreneur develops new combinations of goods, services, and organizational forms in the service of a relentless drive to create (to found a “private kingdom” in Schumpeter’s terms). This orientation has been dubbed “high-level entrepreneurship” and linked historically to the birth of new industries and the concomitant death of existing ones through a process of creative destruction. Entrepreneurship, therefore, can be conceptualized on what could be termed a macro (industrial or Schumpeterian) level and a micro (individual, organizational, or Kirznerian) level. It can also be viewed as involving a wide range of complex phenomena including innovation, the management of change, new product development, small business management, and industry evolution. In addition to various parts of the management field, entrepreneurship is relevant to the fields of economics, sociology, history, and psychology.

This discussion highlights one of the problems that has been noted in the field of entrepreneurship. The definition and range of topics covered is so broad that some question whether there can ever be a theory of entrepreneurship. Despite this lack of specificity, the concept is widely used. The Academy of Management Entrepreneurship Division’s (2007) domain statement specifies, “The Entrepreneurship Division’s domain is the creation and management of new businesses, small businesses and family firms, as well as the characteristics and special problems of entrepreneurs.” The division’s major topic areas include

- new venture ideas and strategies;
- ecological influences on venture creation and demise;
- the acquisition and management of venture capital and venture teams;
- self-employment;

- the owner-manager;
- management succession;
- corporate venturing;
- the relationship between entrepreneurship and economic development.

In addition, the number of colleges and universities offering courses related to entrepreneurship is extensive (it was put at over 1,600 in 2005) and textbooks abound. Most of this academic activity is oriented toward present and future managers in MBA programs and specifically covers aspects involved in creating, starting, financing, and growing new ventures. The entrepreneur (on this micro level) is thought of as someone who perceives an opportunity and creates an organization to pursue it. The process is generally conceived of as involving several stages, including

- a creative or innovative idea that is recognized as an opportunity;
- the decision to start a new organization or venture to exploit the opportunity;
- the development of business, marketing, organizational, and financial plans;
- the acquisition of initial capital;
- strategies for market entry;
- strategies and resources for growth; and possibly
- the process of ending the venture.

As can be seen from this listing, in the entrepreneurial process the focus is not primarily on the innovative idea itself, but upon its recognition and development as part of an opportunity. Three components have been held to be critical (Timmons & Spinelli, 2003): the opportunity, the entrepreneur, and the resources needed to start the organization and foster its growth. The business plan integrates these elements into a strategic direction for the organization. Within this process, factors at the individual, social, organizational, and environmental levels are relevant. Personal attributes such as locus of control or experience may interact with environmental opportunities or role models to influence the innovation stage. These and other personal factors such as job dissatisfaction or commitment, social factors such as networks and family, and environmental factors such as resources and competition may influence the decision to launch the venture. Market, resource, and other environmental factors, personal managerial talent, and organizational capabilities will influence the planning, initial implementation, growth, and end stages. All of these factors will be relevant to social entrepreneurship as well.

SOCIAL ENTREPRENEURSHIP

Definitions of the term social entrepreneurship and social entrepreneur vary in terms of the details they include. A

scan of current definitions of social entrepreneurship reveals definitions such as the following:

- Creation of viable socioeconomic structures, relations, institutions, organizations, and practices that yield and sustain social benefits
- Use of entrepreneurial behavior for social ends
- Art of simultaneously obtaining both social and financial return on investment

Definitions of social entrepreneurs include

- change agents in the social sector;
- people who take risks on behalf of the people their organization serves;
- path breaker with a powerful new idea who combines visionary and real-world problem-solving creativity, has strong ethical fiber, and is totally possessed by his or her vision for change; and
- an individual who uses earned-income strategies to pursue social objectives.

Paul Light (2006) has noted a number of limitations in the definitions that have been given. For most, the focus is almost always on individuals as change agents, not on groups or organizations. Social entrepreneurs usually work in the nonprofit sector and are invariably only interested in new programs or solutions, which they generally want to start from scratch. This is opposed to creating innovations through adapting existing programs. Throughout, there are only occasional references to management practices. In addition, social entrepreneurs are viewed as entrepreneurial at all time. Finally, the use of social enterprise (commercial income) as a key factor is stressed. Light offers a broader definition. In his definition, a social entrepreneur is an individual, group, network, organization, or alliance of organizations that seeks large-scale change through pattern-breaking ideas in how governments, nonprofits, and businesses can address significant social processes. In this definition, social entrepreneurs

- do not have to be individuals;
- seek sustainable, large-scale change;
- can develop pattern-breaking ideas as to how or what gets done;
- exist in all sectors (nonprofit, for-profit, and government); and
- need not engage in social enterprise to be successful.

In addition, the quantity of social entrepreneurship can vary greatly across individuals or entities and the intensity of social entrepreneurship can and does ebb and flow over time as circumstances change. This discussion raises a number of central questions, three of which will be discussed in the remainder of the chapter. The discussion will bring to the forefront major management considerations. We will consider these questions:

- How is social entrepreneurship related to its predecessor (commercial or conventional entrepreneurship)?
- What are the implications for social entrepreneurship of a macro (industry-level) perspective on entrepreneurship?
- What are the implications for social entrepreneurship of a micro (individual- or organizational-level) perspective on entrepreneurship?

SOCIAL AND CONVENTIONAL/ COMMERCIAL ENTREPRENEURSHIP

The question as to the degree to which there are similarities and differences between the new conceptualization of social entrepreneurship and entrepreneurship as it has been previously conceived has implications for theory as well as practice. In addressing this question, a first step would be to examine the connotations of the term “social,” as this is what is proposed to separate the two types of entrepreneurship. This implies that we need to, and can, clearly separate the social from the nonsocial. In reality, most activity is probably best seen as located somewhere along a continuum that ranges from completely social to completely nonsocial (Nicholls & Cho, 2006). Nevertheless, social entrepreneurship is held to entail activity seeking to advance social objectives. This is accomplished by providing benefits for some group or collective—in any case, benefits that jointly go to more than one individual. Its opposite, private objectives, implies the intention of providing benefits that are restricted to an individual separately from other individuals. An open question, of course, is the degree to which providing private benefits results in beneficial outcomes for the collective. While conceptually clear, this brings up a number of issues in practice that managers may have to confront. As many have noted, social interests are heterogeneous, which means that there are potentially incompatible values and goals that can result in fundamentally different and conflicting social objectives. This raises a number of complex questions, including who gets to define what any given social interest is (the entrepreneur or some other group of citizens) and whose social interests are ultimately pursued and at whose expense. This is especially problematic at the macro level of social entrepreneurship, where there may clearly be some who benefit more from large-scale changes than others. This may be especially likely in projects involving developed and developing countries, where goals and values are most likely to be widely divergent. These issues seldom enter into current conversations about social entrepreneurship. The “social” is usually treated as an obvious and unproblematic matter requiring no further examination or explanation (Cho, 2006). Most discussions about social entrepreneurship have had a procedural focus, concentrating on the nature of the particular behaviors that make the pursuit of social ends entrepreneurial. Given that we can identify a set of goals that can be considered social, the next question is how an entrepreneur

would approach them as opposed to strictly commercial objectives. If someone wanted to be a social entrepreneur, it would not be very clear from the literature how he or she should go about it. One major question is to what degree the person would, or should, do the same things that a for-profit, or commercial, entrepreneur would do. What can social entrepreneurs learn from the study and practice of commercial entrepreneurship? Austin, Stevenson, and Wei-Skillern (2006) provide a detailed and useful examination of this question. They define social entrepreneurship as innovative social value creation. They hold that differences between social and commercial entrepreneurship will be the result of four major variables:

- Market failure—will create different entrepreneurial opportunities for social entrepreneurship and commercial entrepreneurship
- Mission—results in fundamental differences between social entrepreneurship and commercial entrepreneurship
- Resource mobilization—will require different management approaches in social entrepreneurship and commercial entrepreneurship
- Performance measurement—social entrepreneurship will necessitate the measurement of social value in addition to commercial value

They base their discussion of the management implications of social entrepreneurship on Sahlman’s PCDO model (1996), which holds that the management of entrepreneurship necessitates the creation of a dynamic fit between People (P), Context (C), the Deal (D), and the Opportunity (O). They maintain that social entrepreneurship differs from commercial entrepreneurship in each of these elements. Opportunity differences are most distinct due to differences in organizational missions and responses to market failure. The impact of the Context varies because of the way that the interaction of mission and performance measurement influences management. The role of People (and other resources) varies due to differences in the difficulties in resource mobilization. Finally, the terms of the Deal are fundamentally different because of the way resources must be mobilized and the ambiguities of performance measurement. Austin, Stevenson, and Wei-Skillern (2006) conclude that the PCDO framework needs to be adapted for social entrepreneurship in several important respects. Most importantly, the social purpose of the activity needs to be stressed. They recommend replacing the (commercial) Deal with what they term the “Social Value Proposition”—a conceptualization of the social value or benefits to be produced. In addition, People should be replaced with economic and human resources in order to highlight the distinction between these two types of resources and their disparate requirements for the management of social entrepreneurship. The considerations of the differences between social entrepreneurship and commercial entrepreneurship

involve a number of implications for practice. Management will need to pay attention to the following:

- The centrality of social value—this must be the first and foremost consideration
- Organizational alignment—alignment with external actors may be needed to deliver social value
- Organizational boundaries—boundaries may need to be more flexible
- Cooperation—social value may be enhanced by cooperation instead of competition

SOCIAL ENTREPRENEURSHIP AND THE MACRO PERSPECTIVE

With its focus on industry- or economy-wide changes, a macro perspective leads to a view of social entrepreneurship as a process aimed at making large-scale system changes. This would be accomplished through entrepreneurial innovations that have the potential to address significant and widespread social problems. This definition of social entrepreneurship is held and promoted by funding and support organizations, for example,

- Skoll Foundation (2007): Social entrepreneurs are society's change agents, pioneers of innovations that benefit humanity. Motivated by altruism and a profound desire to promote the growth of equitable civil societies, social entrepreneurs pioneer innovative, effective, sustainable approaches to meet the needs of the marginalized, the disadvantaged, and the disenfranchised. Social entrepreneurs are the wellspring of a better future.
- Ashoka (2007): Social entrepreneurs are individuals with innovative solutions to society's most pressing social problems. They are ambitious and persistent, tackling major social issues and offering new ideas for wide-scale change.

What sets social entrepreneurs in this tradition apart from conventional social service providers is that social entrepreneurs will use creativity, innovation, and resourcefulness in nontraditional, pioneering, and disruptive ways that aim at large-scale, systemic change. In order to have the significant, large-scale, systemic impacts sought, however, innovations must be developed and implemented on an appropriate scale. In the social entrepreneurship literature, this process is referred to as scaling for impact (or scaling up). A number of alternatives have been proposed for scaling up, or increasing, the impact of a social venture once it has been developed. According to the Center for the Advancement of Social Entrepreneurship (2007), in the most general sense, "Scaling social impact is the process of closing the gap between the real and the ideal condition as it pertains to particular social needs or problems. Scaling social impact can occur by increasing the positive social impact created, decreasing the negative social impact of others, or decreasing the social need or demand." Increasing

social impact is the technique most often discussed. Scaling up has been viewed as a process that can be used for programs or services, organizational models, or principles. In this process, a social entrepreneur will first develop a concept (the beneficial program, model, or principle) and demonstrate its utility and effectiveness on a small scale and at a local level. Modest expansion can then be used to develop experience and techniques that will enhance efficiency. Finally, full-blown scaling up through wide-scale expansion will provide the large-scale impacts sought. This can be accomplished through providing significantly more services (with the goal of increasing the quantity or quality of impact), diversifying the communities served or services offered, or expanding geographically. Geographic expansion, or branching, involves establishing new service sites in other geographical locations operating under a common name and using a common approach. Branching can prove beneficial in a number of ways. It may result in much wider social impact through providing access to whole new communities. Also, it may enhance the chances of organizational or program survival by providing access to new resource providers or partners. Finally, it may improve efficiency through economies of scale and enhance effectiveness through innovations resulting from local experimentation. In addition, scaling up can be accomplished in more indirect ways, including information dissemination or affiliation with others in networks. For example, a program model might be promoted through licensing agreements or partnerships. Even more indirect channels are available, including influencing public policy, influencing social movements, or changing or creating markets through research, public influence, or advocacy or lobbying.

Networks have been widely viewed as a particularly useful tool for social entrepreneurs and especially those seeking to extend impact and scale up (Dees, Emerson, & Economy, 2001, 2002). Networks could allow social entrepreneurs to collectively do things they couldn't do individually, such as expand total capabilities and reach, provide economies of scale, and enhance access to resources. They may be a way to link organizations in the nonprofit, for-profit, and public sectors and in this way significantly advance the solutions to social problems, since the dimensions of significant problems typically span sector boundaries. It is useful, therefore, to consider some of the basics of network structures. A variety of interorganizational relationships are available for network formation. They vary in terms of a variety of factors, including the level of engagement, importance to the mission, magnitude of resources involved, scope of activities, interaction level, managerial complexity, and strategic value. One useful way of conceptualizing interorganizational relations is in terms of the amount or level of control network partners have over each other. For example, networks of information exchange are not likely to involve any control by partners over each other. The coordination of activities, on the other hand, is likely to involve some mutual accountability for action. More intense cooperation could involve mutual agreements

regarding the sharing of resources, and complete collaboration could involve mutual agreements about the sharing of resources, power, and authority. In addition, the establishment and maintenance of any interorganizational relationship is difficult due to a number of well-documented factors including internal differences between organizations and the process of relationship establishment and maintenance (making connections, ensuring strategic fit, managing the relationship, etc.). For social entrepreneurship, particular issues might be the social objectives and expectations of the partners, the value of the exchange for each partner, and the extent and measurement of the social value produced. Divergent social objectives were discussed previously and the assessment of social value will be considered next. In any case, these issues are especially likely to the extent that network partners have different missions, cultures, management styles, service philosophies, and so on. This may be especially problematic if partnerships are cross-sector, where internal differences may be especially pronounced. Regardless of the techniques available to them, managers must assess the wisdom of attempting to scale up. According to Taylor, Dees, and Emerson (2002), there are costs and risks. These include pulling the organizations from its mission (to be discussed next), financial and human resource strains, and the risk of overestimating needs or demands. In addition, growth may hurt effectiveness and poor performance at a site may hurt the organization's reputation. Finally, control may require more bureaucracy, which may lead to less innovation, when, of course, more innovation should be the goal. Consequently, organizations should take care to balance the costs and risks with the potential for increasing impact. This may be more difficult when there is pressure to scale up from funders who want to demonstrate the efficacy of their funding of your program.

SOCIAL ENTREPRENEURSHIP AND THE MICRO PERSPECTIVE

In commercial or conventional entrepreneurship, the individual or organizational (micro) approach focuses on the entrepreneur's exploitation of market opportunities for arbitrage. The entrepreneur is motivated by profit and seeks to generate efficiencies that will generate more arbitrage opportunities. For social entrepreneurship, the micro approach can, likewise, involve market orientation as a key element (Nicholls & Cho, 2006). This will lead to a definition of social entrepreneurship as involving (or consisting entirely of) social enterprise, an approach that combines social impact with commercial income. This is exemplified by what has been called a double bottom line or blended-value orientation, in which both financial and social returns are sought. In this approach, managerial considerations involve incorporating both social objectives and organizational operations within commercial markets. In general, the notion of social enterprise can be applied to nonprofit, for-profit, and government activity. A social enterprise can

be generally defined to be an organization that has net positive externalities in its operations, products, and services, and indeed consciously attempts to increase its positive externalities and lower its negative ones (Jamison, 2006). In terms of nonprofits and for-profits, social enterprise is conceptualized as occurring along a continuum in what are being termed hybrid organizations. Kim Alter (2006) has provided one of the most extensive discussions of various models adopted by these organizations. Her typology considers corporate structure, mission, programs, and finances. At one end of the spectrum of organizational types are organizations relying on philanthropic capital and concerned exclusively with social returns. Purely philanthropy organizations appeal to goodwill, are mission driven, and seek to create social value, and income and profit are directed toward mission accomplishment. Organizations with these characteristics have been labeled traditional nonprofits. At the other end of the spectrum are organizations relying on commercial capital and concerned with financial returns. Purely commercial organizations are market driven, appeal to self-interest, seek to create economic value, and distribute profit to shareholders and owners. Organizations with these characteristics have been labeled traditional for-profits. Between these poles is a range of organizational forms concerned with both social and economic returns. These are referred to as hybrid organizations. Hybrid organizations have some mix of elements from the poles of the spectrum. Hybrid organizations themselves fall along a continuum and include

- nonprofits with some earned income;
- nonprofits or for-profits with a roughly equal concern for social and financial ends (often conceptualized as "true" social enterprises); and
- for-profits with some emphasis on social responsibility.

In this framework, social enterprise is defined as any revenue-generating venture created to contribute to a social cause while operating with the discipline, innovation, and determination of a for-profit business. Social enterprises can be classified based on the degree to which they are mission oriented, ranging from completely central to the mission to unrelated to it. Consistent with this, the activities of an enterprise can vary in terms of their social program content and the support they provide to social goals. On the one hand, enterprise activities could be synonymous with social programs, thereby completely supporting social goals. On the other hand, enterprise activities could only be partially overlapping with social programs, thereby supporting some social goals as well as some nonsocial goals. Finally, enterprise activities could be completely separate from social programs, thereby merely providing financing for social programs.

The role of profits in an organization could be a factor that distinguishes nonprofit and for-profit social enterprises. There may not be any difference between the two organizational types in the degree to which a social

venture is explicitly designed to serve social purposes. In for-profits, however, while the venture's primary goal may be social impact, the for-profit structure of the organization necessitates strict attention to the financial bottom line. In addition, the for-profit setting may require more explicit and extensive use of financial objectives to guide managerial decision making and determine success. In the nonprofit context, social enterprise has been defined by the Social Enterprise Alliance (2007) as an earned-income business or strategy undertaken by a nonprofit to generate revenue in support of its charitable mission. Earned income can consist of payments received in direct exchange for a product, service, or privilege. The focus is squarely on the mission, which is consistent with the outlook expected of nonprofit organizations. The role of commercial activity in nonprofits is controversial, however. As mentioned earlier, nonprofits earning income is not a new phenomenon. The contemporary impetus and pressures for nonprofit earned income strategies can be traced to funding difficulties for nonprofits in the late 1970s. These were the result of inflation and recession, escalating costs, and tighter budgets for nonprofits. They were exacerbated by declining public support for programs of interest to nonprofits by the Reagan administration in the early 1980s. In addition, the 1990s saw more competition for grants and contributions due to the increased number of nonprofits. Also in the 1990s, a series of scandals in the nonprofit sector led to an erosion of public confidence in the sector. Finally, the 1990s and onward saw the rise of a conservative ideological emphasis on market-based solutions in both the public and nonprofit sectors. Currently, a host of drivers and benefits are cited for nonprofit social enterprise including the following:

- Freedom from the constraints imposed by government or philanthropic dollars
- Diversify funding sources
- Fund overhead, innovation, or unpopular causes
- Sustainability for the long term
- Take advantage of new opportunities
- New expectations from funders: asking nonprofits to become self-sustaining
- Desire to meet double bottom lines (social value and income) or triple bottom lines (social value, income, and environmental neutrality)
- Create entrepreneurial spirit in the organization
- Enhanced understanding of clients (needed for commercial success)
- Tests social value (since value can be measured by the willingness to pay)
- Add skills and competencies to organization
- Enhances profile of the organization among funders and community

On the for-profit side, several factors have been held as drivers for social enterprise, primarily an increasing concern about corporate social responsibility and the spread of for-profits into areas where nonprofits have typically

been the exclusive or dominate service providers. There are numerous conceptualizations and definitions of corporate social responsibility. The basic idea, however, is that business has some obligation or responsibility to society. The fulfillment of this responsibility can be seen in a firm's efforts to do more to address a social problem than the firm would have done in the course of its normal pursuit of profits (Vogel, 2005). While the idea has a history going back to the beginnings of the corporate form, the establishment of the legality of corporate philanthropy in 1945 gave the topic new relevance in the United States. Moreover, since the 1990s, there has been increasing pressure for corporations to conceive of their social responsibility on a global scale. This is primarily because in many cases national governments alone seem unable to deal successfully with global social problems. In addition, for-profits have expanded their activities into new social service areas. In some cases, these service areas have been opened to for-profits by government privatizations or change in provider policy. For example, the government may decide to let for-profits bid for contracts that previously had been reserved for nonprofits. In addition, for-profits have moved into some social service areas to exploit opportunities to earn profits while providing social benefits. A high-profile example is the current interest among some for-profits in the "base of the pyramid." The base of the economic pyramid is defined as the four-plus billion people in the world who earn less than four dollars a day and live in poverty. Conventional business has not considered the base of the pyramid a viable market because these individuals received services provided by governments and/or nonprofit organizations. Some corporations, however, are seeking new, creative strategies to profitably improve the social conditions in such target markets.

ISSUES IN SOCIAL ENTERPRISE

In this section, we will consider in more detail some of the issues currently being discussed regarding social enterprise. While the discussion of these issues has mostly been in terms of social enterprise in nonprofit organizations, the issues are also relevant to for-profit social enterprise. There is a vigorous debate about the near-term future of earned income activities by nonprofits. One camp is of the opinion that we are on the verge of a big increase in nonprofit commercial activity based on its promotion by key actors and practice by increasing numbers of organizations. For example, Massarsky (2006) argues that social enterprise in the nonprofit sector has reached a tipping point, as indicated by a number of markers including collective action, specific language and a common terminology, presence of debate or differences of opinion, increases in publishing and media attention, increases in resources available to support the issue or idea, a set of projected or actual changes in behavior, new policies or legislation, increases in activity among university faculty and administrators, and tools and metrics. Most research on social enterprise to date, however, has

been anecdotal in nature. Until more systematic research accumulates, the claims just made must be seen as speculative. Moreover, data does not show that there has been a large increase in commercial income in the nonprofit sector (Foster & Bradach, 2005). An additional question that needs to be addressed is the degree to which nonprofits that rely heavily on earned income are successful in their ventures, and there are doubts about the extent of nonprofit success to date (Foster & Bradach, 2005). In addition, it has been speculated that problems in the capital market may prevent expansion. Nonprofit sources of capital (donations and grants) are insufficient and the link to performance is weak. For-profit sources of capital (debt and equity), on the other hand, do not recognize social value creation, and high-risk capital is only available in certain sectors. In addition, basic questions remain concerning the positive and negative impacts of nonprofit commercialization on different types of nonprofits, on the nonprofit sector and its various subsectors, and on community or society. As this indicates, multiple levels need to be considered. For example, social enterprise may benefit particular organizations, but might harm the community, the sector, or society. It may diversify nonprofit income, but may reduce the presence or impact of nonmarket activity or values. Of course, debates about the characteristics, extent, and consequences of market and nonmarket aspects on society have been held for a long time. Social enterprise should be brought more explicitly into these discussions. One way to proceed as these discussions develop is to adopt a contingency view of social enterprise. The question then becomes not if, but when, how, and with what effect social enterprise takes place. In addition, more research is needed on the limits as well as the advantages and disadvantages of providing goods and services via social enterprise techniques as opposed to traditional philanthropic or public provision techniques. Of concern are impacts on

- the nature of the goods and services produced;
- the distribution of these goods and services;
- the recipients of these goods and services;
- the producers of these (the impacts on nonprofits);
- other stakeholders, including the community or neighborhood;
- the sector and the consequences of more blurring and blending of organizational forms; and
- society, including the availability of social benefits.

There are also a host of organizational and managerial questions. What are the organizational impacts of social enterprise on various types of nonprofit organizations? To what degree are ventures viable and what are the consequences of venture failure? How should opportunity costs be conceptualized and taken into account? What are the impacts in terms of mission drift, organizational culture, and accountability to constituencies or the community? Finally, increased commercial activity may threaten the legitimacy as well as the tax exemption on which the

sector is based (Weisbrod, 2004). We will examine two of these issues here. A major question for both social entrepreneurship and social enterprise is how to define and measure the social bottom line—variously termed the social value, social returns, or social impact—of social enterprise. While a long-standing question for nonprofits, this question is also of great relevance to for-profit organizations. Because for-profit organizations have explicit concern about profits and experience difficulties in measuring social impact and assigning value to it, they have problems making decisions about investments or resource allocation. In the broadest sense, things are valued because they are judged to be good or worthwhile. More specifically, several types of value have been distinguished. Outcome value results when something improves people's welfare and quality of life. Activity value, on the other hand, lies in the process by which an outcome is produced. Finally, excellence value is created when an outcome or activity inspires others to strive to learn and excel. Assessing social value, therefore, may involve determining the value of things that can't be easily, directly, or at all monetized, such as social capital, cohesion, or quality of life. Without such an assessment, however, how does an organization know to what degree it has provided social value and in what ways the financial bottom line relates to this? Several recent discussions of this issue are illustrative. The Aspen Institute (Gentile, 2002) has proposed the term social impact management to mean “. . . the field of inquiry at the intersection of business practice and wider societal concerns that reflects and respects the complex interdependency between these two realities” (p. 2). For this type of management, three aspects of a business activity need to be considered:

- Purpose—in both societal and business terms
- Social context—the legitimate rights and responsibilities of multiple stakeholders need to be considered by management, and proposed strategy needs to be evaluated for both financial returns as well as broader social impacts
- Metrics—there needs to be measurement of both social performance and profitability for both short- and long-term time frames

A recent study sheds light on the current state of affairs in social-impact assessment and points to numerous issues. In March of 2003, the Rockefeller Foundation and the Goldman Sachs Foundation hosted over 50 funders to discuss the issues surrounding assessing social impact and social return on investment. The discussion concluded: “The field has yet to establish a common understanding of ‘social impact’—what it is or how to measure it. Currently, measures of impact vary from funder to funder and organization to organization” (p. 2). Sixteen social impact assessment methods currently in use in the nonprofit and for-profit sectors were presented to the group. Four prominent social-impact assessment tools used by nonprofits were discussed and evaluated in detail, including

- Roberts Enterprise Development Fund: OASIS;
- New Profit, Inc.: Balanced Scorecard;
- Edna McConnell Clark Foundation: 70 indicators; and
- Coastal Enterprises, Inc.: SROI and longitudinal data.

This discussion of the use of social-impact assessment methods identified a number of challenges. Conceptual challenges exist because the best practices are not standardized and theories of change are not aligned among grantors, investors, and nonprofits. Operational challenges exist because values cannot always be measured, quality implementation of assessment is essential but difficult, third parties may be needed to help achieve more technically sound assessment, and time horizons for output and outcome measurement are long. Structural challenges exist because significant diversity exists within each nonprofit field and reporting requirements are not usually aligned among funders, creating difficulties for recipients. Finally, practical challenges are entailed because funders often lack clear goals, funding priorities may be inconsistent and shift, and trust and mutuality between funders and recipients are limited. Given this evaluation of the state of the field as described in the report, it appears that while social impact assessment is important and a number of approaches are being developed, much remains to be done.

We conclude with the consideration of another issue often raised in connection with social enterprise in nonprofit organizations—mission drift. It should be noted, however, that this issue is also relevant to for-profit social enterprises. In general, mission drift can vary in severity and can be characterized by both internal and external factors. Internally, when mission drift occurs, mission will not provide a good guide for daily activity and opportunities will be pursued even if they do not further the mission. Externally, it will be difficult to identify or understand the organization's mission by observing its actions. Richard Male and Associates (2007) list a number of indicators of mission drift, including the following:

- Focus on income first and build programs around the dollars
- Income acquisition is seen as a problem or crisis
- Key organization members are not clear what the mission is
- A core of board members/volunteers pushes the organization in certain directions
- Large turnover of staff or board members
- Media coverage and publicity are very important
- Frequent questions about adherence to ethical standards
- Organization is coasting—not on cutting edge of creativity or effectiveness

Numerous commentators have noted possible tensions between nonprofit missions and market orientation in organizations pursuing double bottom lines. It is held that balance and trade-offs are necessary for social enterprise activities. The goal and process of generating both social and economic value can result in decisions and actions that can be in opposition to each other. For example, increasing

earned income by instituting or increasing client fees or charges may result in decreasing social impact. Conversely, extending services to new clients may necessitate increased costs. In these cases, managers must calculate the financial and social trade-offs involved and both market discipline and organizational ethics and integrity must be taken into account. Mission drift under these circumstances would occur where activities to meet financial goals begin to dominate or change social missions or mandates. Mission drift entails a number of possible negative consequences. A nonprofit's reputation among stakeholders and the public may be damaged. In addition, funding may be jeopardized if funders feel that donations are no longer necessary because commercial income is sufficient. Finally, a nonprofit's organizational culture could be threatened by the introduction of market-based outlooks or the hiring of business and industry experts or professionals. The assessment of mission drift is made more problematic in that organizational change is a very complex process. Change could take place in any part of the organization, including highly visible and formal factors, such as mission statements, strategy, or objectives, or in much less visible day-to-day staff directives, service delivery details, or service recipient outcomes. Management may have relatively little difficulty assessing changes in the visible and formal factors but much more difficulty observing changes in the less visible activities. The problem is that missions and strategies are often general enough to be met in a variety of ways. Detecting mission drift, therefore, may require management to look at changes in day-to-day work activities. Making things more complex is the possibility that these activities may, in fact, drift without there being any changes in official mission or strategy statements. In addition, even if there are changes, there is the question of whether they are due to an emphasis on financial goals or are the result of other factors (such as a change in the environment). Finally, if the social mission of provision of social benefits has, in fact, changed, to what degree are these changes positive or negative? It could result, for example, in a renewed sense of purpose in the organization. On the other hand, it could damage the organization's reputation, split the organization's culture, and decrease services to the community.

CONCLUSION

The goal of this chapter has been to shed light on current discussions and debates about social entrepreneurship and social enterprise. These are areas of considerable interest to both practitioners and academics and a wide range of actors have become involved. Developments are being made on both conceptual and practical fronts and significant dollars are being spent by major funders. Both social entrepreneurship and social enterprise, however, raise a number of issues. Social entrepreneurship is just starting to explore and find its definition and place in both the nonprofit and for-profit sectors. Given that it is a manifestation of the powerful

process of entrepreneurship, however, it has the potential to make major and positive contributions. If researchers and practitioners together can discover how organizations can promote and harness innovation and creativity and bring these more effectively to bear on social problems, the constituencies of these organizations and society as a whole will benefit greatly. Social enterprise, on the other hand, has been discussed for some time and is being vigorously promoted. Basic questions remain, however, regarding the proper conceptualization and role of market and nonmarket orientations in both the nonprofit and for-profit sectors. These questions and issues have, however, been relatively well identified in the literature and addressing them furthers our understanding of current practices and points to future applications. This will both advance our understanding and improve the management of socially oriented nonprofit and for-profit organizations.

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4

HIGH TECHNOLOGY ENTREPRENEURSHIP

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The goals of this chapter are to introduce the reader to the current state of knowledge on high technology entrepreneurship and to identify questions that are not yet answered, are open for debate, and are in need of further empirical research. (We have listed suggested research projects at the end of this chapter.) This chapter will discuss each of these items in turn, beginning with definitions and the importance of entrepreneurship, and turning next to the state of innovation in the U.S. innovation system and the sources of innovation. Next, moving through a typical sequence of start-up events, we identify significant issues that may create crises. (See also Chapter 1 on organizational emergence). We conclude with comparisons of the climate and institutional arrangements that support entrepreneurship in the United States and elsewhere.

ENTREPRENEURSHIP AND ITS IMPORTANCE

First, what is entrepreneurship, why is it important, and what is different about *high technology* entrepreneurship? While there are many definitions, we define entrepreneurship as a process of innovation that creates a new organization (new venture or start-up).¹ An entrepreneurial venture is a relatively recently founded firm that is both young and small, but not by design and not for long. High technology

entrepreneurs seek high growth and expect their ventures to develop into complex enterprises. Entrepreneurship thrives in countries whose national institutions and social norms support new venture creation and when collaboration is facilitated between industry, government, and educational institutions.

Entrepreneurship is important because it fosters economic growth. The rate of entrepreneurship surged throughout the world in the last quarter of the 20th century, thriving in countries as diverse as China, India, the Czech Republic, Turkey, Korea, Ireland, Peru, and the United States, according to the Global Entrepreneurship Monitor (GEM; 2006), a 42-country, 5-continent study of the dynamic entrepreneurial propensities of countries. GEM investigators reported that a country's rate of entrepreneurial activity is positively correlated with national economic growth (measured as per capita GDP) over time, 1999–2006.

Entrepreneurs expand existing markets by identifying niches, thereby increasing competition and economic efficiency. They also create entirely new markets by developing innovative products as well as innovative applications and variants of existing product lines. New markets present profit opportunities to others, spurring further economic activity. Worldwide, the rate of early stage (nascent) entrepreneurship varies across countries from a low of 2.7% (Belgium) to a high of 40% (Peru), with the United States and Australia at 10% and 12%, respectively. However, this

rate also depends on the demographic cultural and institutional characteristics of each country. (See Chapter 37 for a discussion of culture-sensitive global strategies.)

Of the 24.7 million business firms in the United States in 2004, 99.7% employed between 10 and 200 people, accounting for 45% of the total private payroll, and just over half of 112.4 million workers in the nonfarm private sector. Small firms created 60% to 80% of the net new jobs annually for the last decade, and are *more innovative* than their larger counterparts, producing 13 to 14 times as many patents per employee. They also account for up to 80% of sales of new innovative products in the first years after launch. Patents filed by small businesses are twice as likely as those filed by large firms to be among the *top 1% of patents* in subsequent citations (U.S. Small Business Administration, 2006). These are the “high technology” small firms that offer wealth creation, jobs, and economic growth because they are so innovative.

High technology describes the “technology intensive-ness” of a business or industry, which is often measured by money spent on research and development (R&D) as a percent of revenues to develop innovative products and technologies. The all-industry U.S. average research and development R&D/Sales ratio is 3.4%, varying from less than 1% to a high of 20%. High technology industries’ rates range from 8.3% for the U.S. semiconductor industry to 20% for the software industry. Other measures include the fraction of all employees involved in R&D or with advanced degrees or technical education. Biotechnology, nanotechnology, electronic device manufacturers, photonics, and medical instruments are considered technology-intensive industries.

What is “high technology” is relative to whatever else is available: It depends upon *when* you ask the question. In 1890, “high” or cutting-edge technologies included petroleum refining, street railways, machine tools, and telephones. In 1990, it was electronics and computers. By 2007, consumer devices like the iPhone and nanoengineered materials are high technology, as are genetically engineered medications that target specific diseases. What was “high technology” in one era quickly becomes the accepted norm in the next.

High technology entrepreneurship is the process of starting a new venture based on scientific advances or a technology not generally in use or not in use in the industry in question. Recognizing opportunity, gathering needed resources and people, structuring an organization and bringing the product to market are all aspects of new venture creation—and each can be challenging. High technology entrepreneurship differs from entrepreneurship in nonscience-based industries, because it creates a higher proportion of innovative products than nonscience-based entrepreneurship, accounting for the Small Business Administration’s patent citation counts and other measures of innovativeness previously mentioned. High technology entrepreneurship is also high in risk, because the market

success of a new technology cannot be forecast (Rosenberg, 2000), and because new ventures face “liabilities of newness,” or a greater likelihood of failing than older, established firms (Stinchcombe, 1965; Schoonhoven, 2005).

High technology entrepreneurship is also potentially high in rewards, because new technology can transform whole industries and create new markets. Entrepreneurship is the most likely entry to market for new, “disruptive” technologies—those that change the way business is done, rendering older methods obsolete (Tushman & Anderson, 1986). Established firms tend to improve existing technologies and products, rather than introducing wholly new ones.² Innovation does take place in large corporations. Consider, for example, IBM’s development of the System 360 (Chandler, 2001), Texas Instruments’ introduction of commercial silicon transistors (Jelinek, 1979), or Monsanto’s shift into biotechnology (Day & Jelinek, 2007). Because significant innovations are rare in established firms, we focus on entrepreneurship, new ventures, and start-ups.

Would-be entrepreneurs must find new technologies, generate viable commercial applications, mitigate risks, create profitable paths to market, accumulate the necessary resources to proceed, and organize all this into a new, independent entity. New businesses fail at a higher rate than older, more established firms, especially businesses based on new science and technology. Yet it is difficult to predict which new ideas, innovations, and technologies will succeed to yield the new jobs, wealth, new industries, and new technology applications that make high technology entrepreneurship so attractive. Dell Computer Corporation, a well-known exemplar, began as a part-time business in a college dormitory room, but became the world’s largest personal computer firm with worldwide sales and market capitalization of more than \$50 billion by 2007, about 15 years after its founding. Dell’s highly information-intensive business model uses computers and the Internet to serve both consumer and corporate customers and set new standards for service, delivery, and convenience.

But how do innovations and new technologies come into commercial use? Where do the ideas come from in the first place, and how do they come to be accepted? We turn first to a brief survey of selected frameworks about entrepreneurship and then to innovation and technical entrepreneurship in the United States.

THEORIES OF ENTREPRENEURSHIP

Joseph Schumpeter (1936, 1940/1950), an early-20th-century economist, argued that innovation by entrepreneurs led to “gales of creative destruction” as innovations caused old products, ideas, technologies, skills, and equipment to become obsolete. More contemporary researchers concur that new technology drives economic growth by displacing older expenditures of capital, labor, and time as well as providing goods and services formerly unavailable, or

available only to the very wealthy, as well as longer life, and better health (North, 1981, 1990; Rosenberg, Landau & Mowery, 1992).

Yet despite centuries of scholarly attention, no general theory about entrepreneurship has emerged, nor have substantive disciplinary theories of entrepreneurship, so we cannot systematically compare alternative theories (Schoonhoven & Romanelli, 2001). Instead, we consider five frameworks that have evolved to account for the phenomenon:³ two are “macro” frameworks that examine the firm in its external environment, industry, and institutional context; two others are “micro” frameworks addressing entrepreneurs and entrepreneurial teams. The social network approach to entrepreneurship, which we will discuss last, lies in between.⁴

Liability of Newness

At the macro level, both theory and research show new organizations failing more often than older firms, the so-called “liability of newness.” All organizations are dependent upon and constrained by their social system, but new organizations must create new roles, a process that is time consuming, may involve trial-and-error learning, has the potential for interpersonal conflict, and is imbued with inefficiencies in execution of the new roles and the venture’s work (Stinchcombe, 1965).

New ventures rely primarily on social relations among strangers, and interpersonal trust is initially low among strangers, so relationships are precarious. Loyalty and thus the commitment to the venture’s goals are also uncertain—complicating efforts to efficiently execute a business plan. Lastly, new ventures typically lack external legitimacy, so establishing relationships with potential customers and suppliers is difficult: new organizations must start from scratch. Where existing rival organizations have strong ties to customers, it is more difficult for the new organization to displace rivals. Despite the difficulty of first gaining customers, the greater those customers’ reliance on the new product or service, the greater their stake in the venture’s survival. It is not unusual for customers to invest in new ventures that supply critical products or services.

Less obvious “social conditions” affecting new firms’ survival include a nation’s institutional framework. For some 40 years after World War II, private property was outlawed in China under its communist government. Entrepreneurs were not allowed to join the Communist Party (the sole political party) until the late 1990s, and the political institutions of China did not support the founding of new ventures. In Japan, which has a history of economic domination by a small number of very large industry groups (the *keiretsu*), entrepreneurship is still not common (although it is becoming more so among the young). “Lifetime employment” by a large company was the prevailing social ideal, and it remains socially shameful to be laid off, fired, or out of work in Japan, especially for a man. Japan’s institutions

have not favored high technology entrepreneurship; most Japanese technology firms began as subsidiaries of much larger firms, rather than as independent start-ups. Japan and China have different institutional arrangements than the United States, and thus different social conditions.

New firms in science-based industries face an additional liability in their search for innovation (Schoonhoven, 2005). The time required to create new product knowledge is uncertain, making it difficult to predict when the first working prototype will be complete, or when income from first sales will be realized: The new firm must spend cash without revenues to support itself for months longer than expected, and those attempting highly innovative products take longer to reach first revenues (Schoonhoven, Eisenhardt et al., 1990), raising the likelihood of failure.

Why are newness liabilities important for a potential entrepreneur? The simple fact that new firms fail at a higher rate than established firms describes the relatively high risk as well the substantial challenge of high technology entrepreneurship. For a discussion of practical actions entrepreneurs might take to mitigate these liabilities of newness, see Schoonhoven, 2005. Good textbooks on entrepreneurship also review multiple sources of risk for a new venture, along with risk mitigation strategies (e.g., Timmons & Spinelli, 2007).

Death Rates: Industry Size, Legitimation, and Competition

One prominent framework argues that as the number of new firms in an industry (called a population) increases, the death rate of new firms decreases. However, after a certain point, death rates increase again. Referred to as “density-dependent death rates” (Hannan & Carroll, 1992), this same relationship has been found in a wide range of industries such as credit unions, telecommunications, semiconductors, newspapers, and hospitals (e.g., Barnett & Carroll, 1987; Ruef, 1997). The practical implication is that death rates of new firms differ as industry size increases over time; first movers face a particular challenge.

Researchers argue that population density—the number of firms in an industry—determines both the level of *legitimation* of the industry and the *degree of competition* within it (Hannan & Carroll, 1992). As density increases, legitimation also increases—until, after a certain point, further density creates greater competition for resources, driving up mortality rates. There are several practical implications of these ideas. An entirely new type of organization—the first of its kind—will struggle to establish its legitimacy with other suppliers and customers and thus face greater likelihood of death. As other new firms enter, the industry’s increasing density increases legitimation for all, improving the likelihood of survival for any given firm. As more firms compete, death rates increase again because there are too many firms competing for similar resources, creating an industry “shake out” when the less fit firms fail.

Entrepreneurial Characteristics

Microlevel research investigates entrepreneurs (who range from “entrepreneurs by necessity,” such as indigents who start street stalls in underdeveloped countries, to the technical specialists who start high technology businesses). Conventional wisdom holds that entrepreneurs are more comfortable with risk, more achievement oriented, and more self-directed. Ethnic minorities, women, and immigrants are often entrepreneurs—perhaps because of barriers to entry or advancement in mainstream businesses, or a desire for more personal control over outcomes. (See also Chapter 65 on ethnic and minority enterprise, Chapter 67 on family-friendly organizations, and Chapter 6 on women entrepreneurs.) However, classic personality trait research has not been able to predict who will become an entrepreneur or who will succeed. Yet important psychological and cognitive variables such as differences in opportunity recognition, expectancies for performance, and attributions do distinguish entrepreneurs.⁵

Key characteristics of entrepreneurs center on their ability to recognize opportunities: This ability is a function of their personal networks; their ability to think “outside the box” of conventional thought; their personal experience; or their ability to see that *their* problem is also the problem of many others. Entrepreneurs are often highly networked: Their wide social contacts link to key resources. A review of entrepreneurship dynamics highlights these distinctive capabilities—but we focus on high technology entrepreneurship dynamics per se, rather than on entrepreneurs’ personal characteristics.

Teams of Entrepreneurs

Because small businesses tend to be relatively simple undertakings, they are often started by a single individual. By contrast, new high technology firms tend to be founded by teams of entrepreneurs (Boeker, 1989; Schoonhoven, Eisenhardt et al., 1990). One reason is that entrepreneurship is a social network process (Aldrich, 1999): Most of the resources required to start a new venture must be obtained through others, including introductions to potential investors and help recruiting key talent. Ventures founded by a *team of entrepreneurs* will enjoy larger and more diverse networks—individual members’ networks multiplied by the number of founders on the team (minus any redundant elements of their networks).

Then, too, the tasks required to found a new high technology venture are complex, and can easily overwhelm the knowledge, experience, and available time of any single individual. Contemporary science-based technologies are typically multidisciplinary, requiring the input and collaboration of multiple specialists to bring a new product or service to fruition. Among new science-based ventures, firms founded by fully staffed teams (that is, those having top management members who cover all critical business

functions) bring first products to market faster than less adequately staffed teams (Schoonhoven, Eisenhardt et al., 1990). Ventures developing a new technology product must rapidly build key capabilities within the first year, attracting quality personnel in essential functional areas and building functional integration across the new organization, which speeds first products to market. Ventures lacking key staff will lag in building such integration.

New ventures benefit from a “strong” founding top management team of three or more members with a range of industry and functional experience in addition to more recently trained technical experts. Ventures with strong founding top management teams have the highest revenue growth rate in their first four years (Eisenhardt & Schoonhoven, 1990), a higher probability of reaching \$20 million in revenues, and a higher probability of going public (Schoonhoven, Woolley, & Lyman, 2007). A strong team’s variety can also be reflected in its diverse social network.

Entrepreneurship as a Social Network Process

A growing body of research sees entrepreneurship as a social network process in which entrepreneurs draw on their personal networks for information, advice, and specialist expertise—capabilities not yet developed in the start-up. In short, networks can provide a firm with access to a wider range of resources, information, markets, and more (Gulati, Nohria et al., 2000)—the resources entrepreneurial start-ups need to recognize opportunities (Cooper, 2001) or compete effectively (McEvily & Zaheer, 1999).

Networking with established firms can provide an array of benefits including social capital (Tsai, 2000), trust (Kale, Singh et al., 2000), and access to the broader network’s resources through informal as well as formal relationships (Kogut, 2000) for both U.S. and non-U.S. entrepreneurial firms (Lee, Lee, et al., 2001). Other benefits include credibility or legitimacy—like vouching for the quality of technology or new products (Cooper, 2001). Such links are most valuable when they are complementary to the skills, capabilities, and resources of the entrepreneurial firm (Chung, Singh, et al. 2000); when they stimulate new learning or capability (Hitt, Dacin, et al., 2000); or when they provide resources the entrepreneurial firm lacks altogether (Starr & MacMillan, 1990; Dubini & Aldrich, 1991). Further benefits from networking, alliances, and similar ties accrue for independent as well as “corporate entrepreneurship” efforts.⁶ In short, network ties are critical to successful entrepreneurship. We turn next to the U.S. innovation system.

BRIEF TOUR OF THE U.S. INNOVATION SYSTEM⁷

Because the United States has been the most prolifically entrepreneurial society, there is great worldwide interest in the U.S. innovation system, how it works in comparison

to others, and whether its approaches can be adopted elsewhere. We turn first to the U.S. innovation system and its sources of innovation. Next, we identify critical start-up issues. We conclude with comparisons of the institutional arrangements that affect entrepreneurship in the United States and in selected other countries. Our tour of innovation and technical entrepreneurship in the United States begins with the relationships between U.S. universities and industries, patent and bankruptcy laws, and entrepreneurship.

A typical innovation path envisions a scientific discovery that is refined in the laboratory by countless small insights, and then moved into “development”—to apply the ideas to a new or existing commercial product or service need. An open marketplace for ideas means that others refine the original ideas, so the economy becomes increasingly efficient as entrepreneurs apply new knowledge. Such macro perspectives embrace economic theory, industry, geographic analysis, and business history studies of entrepreneurship, as well as the “institutional” factors that comprise the national framework of laws and systems within which entrepreneurship occurs.

U.S. patent law grants the innovator a limited monopoly to exploit a discovery, in return for disclosing its details. This law is written into the U.S. Constitution. Americans were renowned as innovators from the earliest days of the country—and as adopters of others’ technology, much as the Chinese, Koreans, and Indians are seen today—well into the 20th century. Global trading relations in the World Trade Organization (WTO) hinge on extensive diplomatic negotiations about intellectual property (IP) rights—that is, patent and copyright ownership, licensure, and protections. Developed-country innovators want their IP protected so that others must pay to use inventions; developing country users want access to products or ideas they see as essential. Current disputes between developed economies like the European Union and the United States, and the less developed economies like China and India include pharmaceuticals (especially drugs for HIV-AIDS), bioengineered crops (such as RoundUp Ready™ cotton or soybeans), and video, music, software, and other digital IP.

U.S. universities receive most federal research funds and are the source of most basic scientific discoveries as well as trained students to work in industry. Hundreds of public universities (such as the University of California and similar schools in every state) are supported by state legislators interested in economic development and by industrial firms eager to sponsor research to solve their problems. One result: U.S. colleges and universities have historically been highly responsive to industry needs—generating whole new disciplines like petroleum engineering and aeronautical engineering, computer systems and materials science (and graduates trained in them) well before European or Asian universities.

About 80% of U.S. federal funding for scientific research since World War II is given to universities and is aimed at “fundamental” research with no commercial application necessarily in sight. Industries can sponsor (or

perform) further research into commercial applications to generate proprietary IP. Since researchers’ students often go into industry, much new knowledge is transferred directly through them, or otherwise “leaks” into commercial firms (some sources estimate that as much as 95% of new knowledge is transferred by these means, rather than by the much more widely mentioned—and hotly contested—technology licensing efforts by universities).

Close relationships between the U.S. military and its suppliers, particularly firms in the aeronautical, communications, and computer industries, have also helped fuel U.S. high technology entrepreneurship. Billions of dollars of investment in military and technical space research has given rise to commercial semiconductor electronics (leading to an explosion of computer and telecommunications devices), the Internet (initially a Department of Defense communications link), and global positioning technology (at first available to civilians only in a degraded signal, now routinely included in automobiles and cell phones, and in handheld devices for hikers). Government-supported research is also conducted within federal laboratories, National Aeronautics and Space Administration (NASA), and National Institute of Standards and Technology (NIST), among others.

These close relationships have favored technology and science research and its eventual commercial application to a greater degree in the United States than in many other countries.⁸ Historically, the United States has invested substantial amounts on research and education relative to other countries, while other countries lacked the requisite infrastructure for research with links between laboratories and commercial firms. The era from 1950 to 2000 saw tremendous scientific, technical, and economic growth in the United States and in other countries. This growth boosted investments to foster similar technology transfer: When the United States launched its National Nanotechnology Initiative in 1999 with some \$2 billion of research investment, other countries also invested heavily, so that U.S. nanotechnology expenditures have remained at only about 28% of the global total, despite the increase. By contrast, especially after World War II, the U.S. investment dwarfed that of all Europe and Asia for decades.

The Bayh-Dole Act and University Entrepreneurship

Many sources cite the Bayh-Dole Act⁹ of 1980 as the spur for U.S. university interest in commercially valuable research, technology innovation, and licensing. Bayh-Dole permitted universities to take title to federally funded discoveries made on their campuses. Since most university research is federally funded in the United States, in practical terms the universities took title for *all* discoveries made on their premises by faculty, staff, or graduate students, clarifying ownership and the right to license. Despite economic theory arguments that incentives are critical to encourage risky technology development investments (Teece, 1986), technology licensure has produced few big winners for

universities—and all of these were broadly licensed, sometimes to hundreds of firms (thus undercutting the argument that exclusive ownership was required to commercialize technology). The (very) few enormously valuable discoveries that seemed to corroborate the assumed value of licenses are almost all in biotechnology.

No sharp change in university research behavior, quality, or focus is discernible before or after Bayh-Dole (Mowery, Nelson et al., 2004). Direct return on investment from licensing per se is not great. A small number of “home runs” have earned universities huge returns; but most university patents are never bid upon (80% of those that are have only one bidder). Just as most university knowledge passes into use through students’ learning and subsequent employment, or through publications rather than licenses, most benefit to universities comes not from license revenues but from sponsored research, outright donations, political support before state legislatures, and other ongoing relationships with industry partners.

For the potential entrepreneur, universities and federal labs offer rich prospects for new technologies, much of which has never been bid upon. This basic research is sometimes wholly public, opening the door for further development of potentially proprietary knowledge. Basic research can be accessed through classes, published research papers, and public lectures; through consultation arrangements with faculty; student internships and sponsored research; and by means of consortium membership, where industry members or firms with common noncompeting interests collectively fund research (leveraging members’ individual contributions), in addition to the more widely mentioned licensing agreements.

A plethora of online sources is also available: The National Science Foundation’s research grants are described online, and U.S. research university Web sites describe research and link to technology transfer offices to facilitate licensing discoveries. Numerous consortia—in the form of industry-university cooperative research centers, such as Auburn University’s Center for Advanced Vehicle Electronics or the Center for Research on Information Technology and Organizations (CRITO) at the University of California at Irvine¹⁰—undertake collaborative research on topics of interest and publish their results. Member companies may enjoy first right of refusal for commercial use of discoveries they have funded. Universities are also potential sources of knowledgeable employees, consultants, and researchers, all of whom conduct further research. New companies with close university relations have higher survival rates.

THE PATH FROM DISCOVERY SCIENCE TO COMMERCIAL DEPLOYMENT

Once a promising new science or technology is discovered, the next challenge is to recognize a potential application and develop it sufficiently to create marketable products. University inventors may be unaware of commercial potential

or may not want to commercialize their discoveries. This makes opportunity recognition a key crisis point—both a failure point for many technologies and an opportunity point for observant entrepreneurs.

A nascent technology is typically far from commercial viability: Further development is needed to explore its possibilities, reduce uncertainty, assure reliability or safety, or to lower cost before the new idea is ready for the marketplace. Alternatively, some ideas are accepted so enthusiastically that one wonders why they weren’t thought of before (such as the Sony Walkman, iTunes, or Post-its).

Another constraint is that some innovations require enabling technologies. For example, an iPod or laptop computer that can stream video and music depends on high-speed digital data transfer and low-cost memory to capture downloads. Commercial air travel required dependable internal combustion engines, lightweight and strong aircraft components, and innovations to insure the safety of naïve civilian passengers. Google became ubiquitous only when powerful servers and proliferating Web site content made the Internet a cornucopia of information through efficient Web browsing. New technologies may erode once rock-solid businesses—as video rental stores give way to Netflix’s DVDs by mail and to online downloads. Integrating technologies—for example, Apple’s iPhone, which combines a revolutionary mobile phone, a wide-screen iPod with touch controls, and Internet access—can reduce demand for products they replace: Schumpeter’s creative destruction in action. The need for enabling and complementary technologies means that genuinely new-to-the-world high technology entrepreneurship is risky. It can also be highly lucrative, since “disruptive technology” that obsoletes existing methods can vault the entrepreneur into market leadership for decades to come (Chandler, 1990). These same relationships among technologies help explain why networks of relationships among firms are essential and why certain regions of the world dominate particular industries over time (Porter, 1990; Krugman, 1995; Romanelli & Schoonhoven, 2001). Silicon Valley is the innovative model that many localities seek to reproduce in hopes of creating jobs and wealth from science, but replication is not easy.

The Silicon Valley Archetype

California’s Silicon Valley, the area that extends south from San Francisco to San Jose, is the envy of countries around the world. Emulators like Scotland’s “Silicon Glen” and Manhattan’s “Silicon Alley,” a concentration of Internet and new media companies, and “Silicon Orchard” in Northern Ireland (among many others) testify to widespread admiration. What’s so special about Silicon Valley that so many countries should seek to duplicate some version of it? In short, successful high technology entrepreneurship.

Silicon Valley is home to multiple intellectual resources: most notably world-class researchers and graduates from Stanford and the University of California at Berkeley, many

leading-edge technologies, and financial assets available through venture capitalists and angel investors (many of whom are successful entrepreneurs themselves who have “cashed out” of their businesses), legal experts and deal makers—plus experienced venture managers used to dealing with start-ups (Kenny, 2000; Saxenian, 2000; Suchman, Steward et al., 2001).

These knowledge resources have fostered new ventures for decades in a succession of technologies. Resources in close proximity lower the risk of starting a new venture. Clusters of high technology-oriented support firms—specialists in advanced computing, or manufacturing processes, accounting for new ventures or drawing incorporation papers, advertising, or staffing—make Silicon Valley a highly supportive area in which to start a firm. Because start-ups and entrepreneurship are “in the air,” Silicon Valley is exciting: There is always something new happening (Lee, Miller et al., 2000).

Successful high technology entrepreneurship has also driven up prices for real estate and salaries, created problems dealing with congestion, and increased pollution, creating an outflow of firms, or at least branches, with their technical talent, and thus the spread of Silicon Valley emulators as entrepreneurs seek to recreate the “habitat for entrepreneurship” (Lee, Miller et al., 2000). Beyond U.S. locations—i.e., Oregon (“Silicon Forest”) and Arizona (“Silicon Desert”)—foreign governments, most notably China, Taiwan, and India, have created technology development zones or science parks to attract entrepreneurs to start new firms (Li et al., 2007). They also seek Silicon Valley “graduates”—many of whom first arrived in the United States as foreign students to attend California universities—for job opportunities back home (Saxenian, 1999, 2000).

Yet it is difficult to duplicate the successes of Silicon Valley elsewhere; the U.S. innovation system’s close relationships between universities and their researchers and entrepreneurs and supporting businesses are unusual. U.S. venture capitalists’ access to capital, ability to recognize opportunity and nurture start-ups, and willingness to invest in what may be no more than a dream that is far from commercial realization are also hard to duplicate. U.S. laws that facilitate investments by venture capitalists and others, including the billion-dollar pension funds and institutional investors that provide capital for venture capital firms, are still unique in the world today.

The U.S. system of patents and licenses for IP is another element of the puzzle: For all its difficulties (Jaffe & Lerner, 2004), the system has encouraged numerous high tech start-ups. Economists have long argued that strong patent protection encourages innovation by assuring economic incentives for inventors. Patterns of technology citations in patents, locale, and associations among patent holders offer a revealing look at the networks of familiarity and communities of interest that generate new technologies. Online resources include the U.S. Securities and Exchange Commission’s database (see especially the S-1 forms filed by nascent firms seeking IPOs), while extensive patent data

are also available to individual users (Jaffe & Trajtenberg, 2002).

Personal bankruptcy laws encourage entrepreneurial risk taking by protecting U.S. entrepreneurs from losing their homes and personal effects if their business fails. As a consequence, the U.S. innovation system permits failed entrepreneurs another chance. So-called “serial entrepreneurs” are an especially interesting research topic, both because successful entrepreneurs can self-fund for subsequent ventures, and because their prior success predisposes others to back their proposals. (See also Chapter 7 on entrepreneurial resilience.)

We have been discussing “institution-level” factors, insofar as they concern federal laws and the U.S. national innovation system, and “regional factors,” insofar as they describe unique characteristics of particular regions (such as Silicon Valley). There is no single, simple recipe for success. The perfect mix of factors to foster new ventures varies—by region, the underlying science or technology involved, the nature of the extant industry and the potential new industry, and the availability of start-up resources of all kinds. Even Boston’s Route 128, which enjoyed leading universities and even the very first high technology venture capitalists, has not been as successful at fostering entrepreneurship as Silicon Valley, with differences attributed to Silicon Valley’s regional network-based industrial system, its greater flexibility and technological dynamism, and collective learning (Saxenian, 1994). In contrast, Route 128 firms are described as more atomized and secretive, and their employees are much less mobile across companies in the region, which do not welcome “traitors” from other firms. The challenge is even greater in other countries, where university researchers are government employees who must resign their pensions to start a firm; or where going bankrupt is considered a social shame for the entrepreneur and his family, perhaps for generations; or where national governments are so weak that corruption makes ownership risky (Pearce, 2001). Still, Americans (whether native born or immigrants) have no monopoly on entrepreneurship. A closer look at entrepreneurship in China will illustrate some crucial differences in that country’s national innovation system.

ENTREPRENEURSHIP IN CONTEMPORARY CHINA

After decades without private ownership or foreign investment, the Chinese government slowly opened its economy in the 1980s, then established national technology development zones (TDZs) to encourage local entrepreneurship in high technology industries, including electronic information, integrated optical and advanced manufacturing, biotech and pharmaceuticals, new materials, new energy, aeronautical engineering, ocean technology, high technology agriculture, environmental protection, and nuclear applications.

Some 5,000 new ventures were reportedly founded in the Beijing TDZ between 1988 and 1998 (Chen, 1998), while the China Statistics Yearbook (1999), reported that 16,097 new technology-intensive firms existed in China in 1998. Reynolds and colleagues (2001) assert that entrepreneurial activity in a country is positively associated with national economic growth. But Of the 5,000 new ventures founded in the Beijing TDZ between 1988 and 1998, only 9% survived 5 years (Chen, 1998), and only a miniscule 3% survived to their 8th year of life. Survival rates of 60% and 62% for new firms in the United States and Germany are far more robust than for Chinese firms: A 20 to 21 times greater proportion of new U.S. semiconductor firms survived to year 8 than did Beijing firms (Schoonhoven & Woolley, 2007).¹¹

The high death rates of the Chinese companies demonstrate that economic incentives alone are not adequate for new firms to prosper. We are again reminded of the complex network of interrelated technology and service firms located in close proximity to one another in the Silicon Valley region, along with an inclination in the region for firms to collaborate and form strategic alliances.

HIGH TECHNOLOGY ENTREPRENEURIAL DYNAMICS

Researchers into new product development often speak of the “fuzzy front end” of innovation—the early days of an idea or a scientific discovery or of a new product develop-

ment effort when much is uncertain. Who will want the new technology? What aspect of it is important? For what price? How will it be manufactured and utilized? Even valuable science and technology ideas may fall into the Valley of Death—an area of “no funding available”—because the ideas are insufficiently developed to attract money for commercial development.

Where university research is funded by scientific grants (typically from federal programs) and dedicated exclusively to an agreed-upon project, development expenses in a new firm compete with many other claims for cash. Moreover, when the Valley of Death begins after an initial discovery, research funds disappear before commercial funds can be attracted, because a vast developmental distance may loom before the product can be bought to market. Figure 4.1 highlights some of the difficulties.

In Figure 4.1, the left side is identified as the point of discovery. The landmark discovery of recombinant DNA at the University of California, San Francisco, is a good example. The first genetic engineering experiments in 1973 and the first biotechnology firm, Genentech, was founded in 1976. Yet enabling discoveries were required to launch the biotech industry. The polymerase chain reaction was not well understood until 1980 (Rabinow, 1996) and was not commercially practical without the DNA micro arrays pioneered by Affymetrix that permitted rapid gene prototyping under computer control (Robbins-Roth, 2000). The scale of needed funds was enormous. First-generation biotech companies founded between 1980–1986 raised \$578.3 million at initial public offerings (IPOs; Robbins-Roth, 2000) to

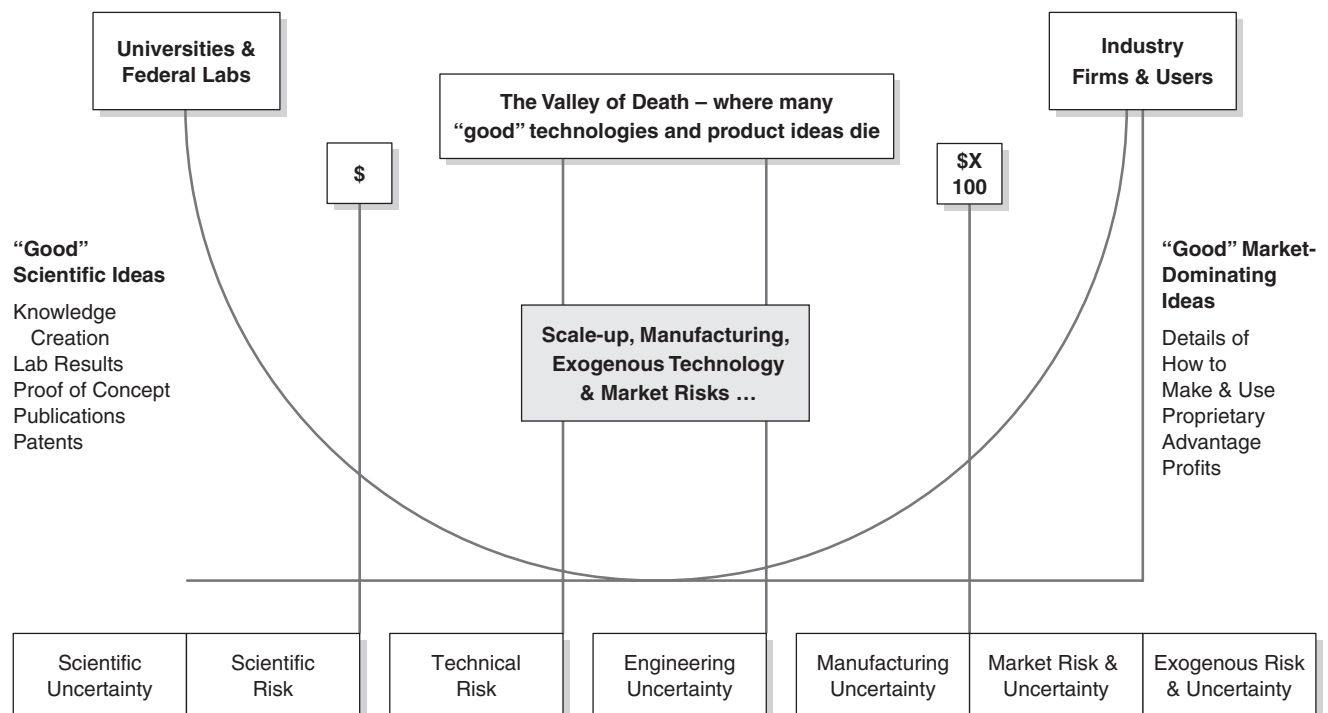


Figure 4.1 Valley of Death

carry on this development. In the next 2 years, \$534 million was raised, and the dollars increased thereafter. These huge sums are mere entry stakes, not guarantees of success.

As Figure 4.1 suggests, commercialization faces a series of hazards, any one of which can be a showstopper. Development research must assure that an innovation can be produced reliably and with acceptable manufacturing costs and yields. If the buyer is another firm, the innovation must fit into customers' downstream production processes (Jelinek, 1996, 1997) and needs at least a 20% improvement in performance or cost (Foster, 1986) to overcome the buyer's reluctance to change.

In the case of DNA-based pharmaceuticals, large companies lacked the human resources, equipment, and experience to carry on their own DNA research (graduates from before around 1976 would have no familiarity with the DNA science), so start-ups were *the* route for this technology to reach the marketplace. Yet, start-ups lack the massive resources, expertise, and capabilities needed for clinical trials to acquire U.S. Federal Drug Administration (FDA) approval, which entails three stages of clinical trials to prove that the drug works, that it works better than other therapies, and that it does so with acceptable risks and consequences for patients. On approval, the new product faces market competition from other products, old and new, and agreement (or not) by third-party payers, the insurance companies, to pay for patients' use. Given such complexity of development, it's scarcely surprising that high technology entrepreneurship is risky.

While the path from discovery to market is often described as a funnel that narrows down paths to the final goal, it is better described by the analogy of ants hauling morsels across a beach, over monumental sand dunes, grain by grain: If one particular direction doesn't work, try another to find *some* path forward (Sarasvathy, 2001). The case of the commercialization of lasers illustrates this point: initially a laboratory toy, then considered as a possible weapon, lasers today are used to cut materials, inscribe information on surfaces, read barcodes by cash registers, open doors, and perform surgery on human eyes (e.g., LASIK eye correction). None of these applications could have been readily foreseen in the early days of lasers (Rosenberg, 2000). Accounts by entrepreneurs offer validation on a much more immediate level (e.g., Lusk & Harrison 2002), corroborating the changes in direction and intent that often emerge in the messy, uncertain processes of entrepreneurship.

Building the Firm

Even with stable technology and application(s) in hand, entrepreneurs must acquire personnel, facilities for development, and critical expertise. The nascent firm must stabilize operations and increase revenues and profit from its now-launched technology. Should the new product fail despite wonderful technology, investors may withdraw to

doom the company before a second chance: Their agenda is financial gain, not technology. Early in new markets, when no industry standard exists, multiple product configurations compete. In the early 20th century, steam and electric automobiles far outnumbered gasoline-powered cars—which nevertheless eventually dominated, driven in large measure by Henry Ford's production line and dramatically lowered manufacturing costs that dropped the price of a personal gasoline-powered automobile. While internal combustion engines dominate today, that basic configuration is under pressure from hybrids and electric cars—and new ventures and entrepreneurship threaten “creative destruction” even in this old, mature market, and even of long-dominant firms like General Motors and Ford Motor Company.

CONCLUSIONS

Our brief survey of high technology entrepreneurship suggests that the field still lacks a general theory of entrepreneurship or even substantive partial disciplinary theories. We noted that economists, business historians, and sociologists have been fascinated by the macro phenomenon of entrepreneurship, pointing to national innovation systems and their characteristics that seem to foster (or inhibit) entrepreneurship. At a micro level, while studies of individual entrepreneurs' traits have not proven helpful in predicting who will become an entrepreneur or who will succeed, important cognitive differences do seem important, especially those that relate directly to the tasks of entrepreneurial start-ups—like opportunity recognition. Our brief tour of the Valley of Death linked research findings about the hazards facing any new product with insights on crises facing entrepreneurs and their start-ups. Social networking stands between micro and macro levels and helps to illustrate just how entrepreneurs and their teams bridge the gap between idea and marketplace reality. Entrepreneurship is important, risky, exciting, and ripe for further inquiry and achievement.

NOTES

1. We distinguish entrepreneurship from “small business ownership” and from “corporate entrepreneurship” (See Chapter 2). Small businesses are typically one-site establishments owned and managed by the same individual, to support his or her family. Small businesses are usually managed for stable revenues and profits rather than aggressive growth; they seldom seek innovative ways of operating, and make few investments (if any) in research and development for innovation as a proportion of revenues. “Corporate entrepreneurship,” also called “intrapreneurship,” refers to new product and technology creation in large, established firms, and is discussed in Chapter 2. See also Chapter 3 on social entrepreneurship and Chapter 8 on strategic planning in new ventures and young SMEs.

2. There is an abundant literature about the role of new businesses in job creation, bringing new technology to market, and

similar matters. One good survey is Acs and Audretsch (2005); a second is Gartner and Shaver (2004). Both also provide numerous citations to the underlying research for interested readers. A very few high growth firms are the major engines of job growth, however—not “new firms” in general.

3. A theory of entrepreneurship can be defined as a verifiable and logically coherent set of relationships or underlying principles that can either explain entrepreneurship, predict entrepreneurial activity (for example, characterizing the conditions under which new firms are founded), or provide useful guidance to entrepreneurs that lead to particular outcomes under specified conditions—called a normative theory. Based on this definition, there are no major theories of entrepreneurship.

4. Also see Chapter 83 on knowledge management.

5. See Baum, Frese, et al. (2007) for an exhaustive contemporary discussion of this research.

6. See Hitt, Ireland, et al. (2001). Both the editors’ introduction and the special issue offer rich resources of further information on entrepreneurship.

7. This section draws heavily on D. Mowery (1998) and Mowery Rosenberg (1998).

8. See D. C. Mowery and Rosenberg (1998) and Rosenberg (1992) for extensive discussion of these issues.

9. Named for its two senatorial sponsors, Birch Bayh and Robert Dole.

10. See <http://www.nsf.gov/eng/iip/iucrc/directory/index.jsp> for a directory of I/U-CRCs.

11. It is also true that Chinese economic and medical statistics, including those published by the government, are often suspect, and should be carefully checked against independent data (if any can be found) for potential corroboration or refutation. Lack of reliable information is often a key hazard in developing economies.

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Web Resources

The Global Entrepreneurship Monitor Web site, <http://www.gem-consortium.org/> for much additional information and data on entrepreneurship in numerous participating companies, as well as information about the Global Entrepreneurship Monitor program.

The U.S. Securities and Exchange Commission Web site, <http://www.sec.gov> for much information on business firms, including form S-1 which entrepreneurs must file before an Initial Public Offering.

Also of Interest

Startup.Com, a film by Chris Hegedus and Jehane Noujaim (also available as a DVD).

GOVERNMENTAL IMPEDIMENTATION AND FACILITATION OF ENTREPRENEURSHIP

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A vibrant economy is characterized by its ability to create a continuous flow of new enterprises. Visionary entrepreneurs create new organizations, utilize new methods, bring in new products to satisfy unfilled demands, and correct market deficiency. Entrepreneurial entry also heightens competitions and forces incumbents to be more innovative and productive. Schumpeter (1942) famously envisioned entrepreneurs as the radical innovators who disrupt existing equilibrium and mastermind the “creative destruction,” a process “of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one” (p. 83).

Long-run economic growth and job creation will not happen without a continuous supply of new, innovative enterprises. In the United States, small businesses, those employing fewer than 500 employees, generated 60% to 80% of net new jobs, and created over 50% of nonfarm private gross domestic product (GDP) over the last decade (U.S. Small Business Administration, Office of Advocacy, 2005).

International comparison shows that small firms employing fewer than 250 employees are strikingly more important in some countries than others (Ayyagari, Beck, & Demirgüç-Kunt, 2007). For example, small businesses account for 68.7% of formal employment in Denmark but only 5.38% in Ukraine. On average, high-income countries rely on small businesses to contribute about 60% of the total employment and over 50% of GDP, whereas low-income countries see less than 20% coming from businesses of similar sizes.

While it might be plausible that some cultures value and encourage entrepreneurial pursuit more than others, it is hardly convincing that people in high-income country groups possess more entrepreneurial spirits than their counterparts in low-income country groups. The cultures of Japan and Denmark could not be more different compared to those of Denmark and Ukraine, and yet Japan and Denmark, but not Ukraine, enjoy high entrepreneurial entry. Also, entrepreneurial skills are economically scarce human capital that cannot be inherited or be “born with.” Therefore, richer countries do not have a greater advantage of entrepreneurial heritage over poorer countries. The difference in the size and importance of entrepreneurial activities across country groups therefore begs the question of why some countries produce more entrepreneurs than others. The next section focuses on government qualities and behaviors and explores the effects of various government policies on promoting (or hampering) entrepreneurial formation.

ENTREPRENEURIAL CREATION AND THE QUALITY OF GOVERNMENT

This section discusses how measures related to government quality and government behaviors might facilitate or impede entrepreneurial formation. Government could promote entrepreneurship by securing property rights; simplifying entry procedures and reducing the cost of entry; facilitating the exchange of information; and providing start-up

financing. On the other hand, certain government policies impede new venture creation. Examples include corruption, the prevalence of government-controlled businesses (the “crowd-out” effect; Kornai, 1986), and public policy that favors established firms.

PRIVATE PROPERTY RIGHTS PROTECTION

Entrepreneurship is fundamentally determined by the level of private property right protection the home country offers. No business owner is eager to invest if the owner foresees that the business he or she will build over many years of hard work might be taken away at the first sign of success. Johnson, McMillan, and Woodruff (2002) compare the level of property right protection by surveying entrepreneurs in post-Communist Poland, Romania, Russia, the Slovak Republic, and Ukraine. Johnson et al. consider the property rights system weak where extralegal payments are required for obtaining government services, licenses and general protection of commercial activities; unofficial payments are expected by fire, health, and tax inspectors; and private channels, rather than courts, are used to resolve business disputes. They find that weak property rights protection reduce reinvestment of earnings by start-up firms in these countries. Moreover, weak property rights place greater constraints on private sector investments than the lack of external financing. In Poland, Romania, and Slovakia, entrepreneurs on average reinvest 56% of retained earnings, as they perceive their property rights to be secure, and the reinvestment happens whether or not bank credits are available. On the other hand, in the case of Russia and Ukraine, entrepreneurs would simply not want to reinvest because they perceive an insufficient level of property right security.

De Soto (2000) argues that poverty and instability in the developing world is not caused by the lack of capital, but by “the inability to produce capital” (p. 5). Even in the poorest countries, people save and accumulate wealth and assets. However, these assets are not productive because the legal, economic, and political systems impose insurmountable barriers to formalize the ownership rights. For example, to obtain formal rights to own a house on urban land, a person in the Philippines would need to form an association with his or her neighbors to qualify for a state housing finance program. The process involves 53 public and private agencies through 168 bureaucratic steps. If the state program has sufficient funds, the process would eventually be completed in 13 to 25 years! Without the ability to adequately document ownership, De Soto argues, the asset in the house is “dead capital” and cannot be deployed in productive use such as collateral for a loan. The absence of a property right system and the inability to convert assets into capital cripples entrepreneurs and thwarts economic growth in many developing countries.

In certain countries where general property rights are left unprotected, some governments opt to offer property rights

protection to a small number of elites and the firms they control. Once promised respect for the property rights, the small set of favored economic actors would invest so that some tax revenues can be generated and the government supported. The uneven distribution of property rights protection benefits the favored elites, generally consisting of owners of the large, dominant businesses. Already wealthy, the elites can use their economic fortune to lobby for special protection. Future entrepreneurs, not yet established with wealth and connection, would most likely be denied this special protection. Investments from upstarts will unlikely happen where the confidence of the security of property is lacking. The practice of the limited commitment to property rights protection greatly reduces entrepreneurial activities in these countries.

Shareholder Rights Protection

A thriving financial market provides capital, liquidity, risk sharing, and information discovery for aspiring entrepreneurs. Entrepreneurs, geared up with brilliant ideas, tend to start out poor, lacking significant personal wealth to support their business pursuit. Financial markets work as intermediaries to connect them to those with money. The success of microfinance in developing countries underscores the constraints many entrepreneurs face in obtaining start-up capital and highlights how much a small amount of financing could help to pull them out of poverty. A well-functioning financial market also provides a channel for successful exit strategies and thus provides liquidity and diversification benefits. A successful entrepreneur could sell all or part of his or her company to public investors through an initial public offering (IPO). An IPO allows entrepreneurs to cash in their success, diversify their personal risk, and raise capital for the next round of investment and growth. Once successfully exited, many of these seasoned entrepreneurs return and start a next round of experimentations (Stam, Audretsch, & Meijaard, 2006).

The availability of external finance is critically related to the level of property rights protection for investors. When a firm raises funds from the external financial market, investors face both the moral hazard and the adverse selection problem. The moral hazard problem describes a situation where insiders obtain private benefits from the control of the firm at the expense of outside investors, those benefits ranging from shirking to excessive on-the-job consumptions to outright stealing from the company. The adverse selection problem arises from information asymmetries between outside investors and corporate insiders. Shareholders would withhold their investment or demand higher returns when they face a great deal of opacity and uncertainty about the outlook and the true value of the company. These problems curtail the supply of external capital and raise the cost to obtain financing for firms in many markets. However, markets in the developed world such as those in the United States continue to prosper with trillions of dollars afloat. Why would investors in these countries want

to give up control of their money to someone whom they never know personally and hope that in the distant future they will be repaid with more?

Investor confidence derives from their rights and protection by the government. The U.S. capital market represents one of the best available practices in shareholder protection. Federal agencies like the Securities and Exchange Commission (SEC) oversee the functioning of the capital markets, regulate major market participants, and prosecute insider trading, price manipulation, and accounting fraud. Investors' property rights also extend to the rights to obtain timely and comprehensive disclosure about the business and any other pertinent information of the investments. The Securities Act of 1933 requires that publicly traded companies disclose financial and other significant information through the registration of the securities. The Securities Exchange Act of 1934 requires companies with publicly traded securities to report information periodically, in addition to creating and empowering the SEC with disciplinary authority over all aspects of the securities industry. The Sarbanes-Oxley Act of 2002 requires that the CEOs and CFOs of publicly traded firms personally certify their firms financial statements filed with the SEC and assume personal liability for any misrepresentation. With these measures, investors are more confident to invest, and the markets grow with valuation and liquidity. Consequently, U.S. firms tend to become widely held after going public. Helwege, Pirinsky, and Stulz (2007) find that after 10 years from the IPO, outside shareholders end up holding more than 80% of ownership in about 50% of the firms, and more than 90% of ownership in about a third of the firms.

In summary, the development of financial markets are highly dependent on the security of private property rights. Investors would withhold capital if they perceived the stock and credit market to be dishonest. Shareholder rights protection is therefore the most critical dimension underlying capital market development. Research by Johnson, McMillan, and Woodruff (2000) and others show that secure private property rights assume first-order importance in promoting entrepreneurship and economic growth. Insecure property rights will stop the private sector from investing and growing even when external finance is not constrained. Arms-length financial transactions will only take place once investors are assured of their property rights.

Intellectual Property Rights Protection

Upon entering the marketplace, an upstart faces immediate and fierce competition from incumbents much stronger in various ways. The incumbents might have long established brand names. They might have amassed a large and loyal customer base. They might also command economy of scale and price-setting power. To succeed and survive against all odds, the new entrant needs to be a rule breaker, marketing new concepts and new product lines, developing

innovative business process and routines, and employing its resources more efficiently.

Indeed, statistics show that small firms in the United States, on average, are more innovative. According to the U.S. Small Business Administration (2007), small businesses produce 13 to 14 times more patents per employee than large patenting firms. The patents awarded to small firms also appear to be of higher quality, ranked by the total number of citations these patents subsequently received. Patents granted to small firms are twice as likely to be among the top 1% most cited as those produced by large firms.

Entrepreneurial innovation can come in two forms. The "high-level" innovation, as Schumpeter (1934) had envisioned, creates new industries and precipitates fundamental, structural changes in the entire economy. Examples of innovation in this form include the invention of steam engines that kick-started the railway industry and the invention of the Internet that allows free access to information by everyone everywhere. Some innovative technology, such as the Internet search algorithm employed by Google, started out with simply a better search engine in the short run, but slowly evolved into a behemoth empire encompassing media, e-commerce, marketing, and other venues in the long run and would fundamentally change the economy and the society as a whole. In all, high-level innovations ignite fundamental changes.

The "low-level" innovation, first described by Hayek (1943), envisions an entrepreneur as an arbitrageur, profiting from differentials discovered in prices and availabilities. The arbitrageur may also utilize better business practices and form more efficient organizations in order to capture more values in the process. Innovative firms in the wholesale and retail trade generally fall into this category. eBay stands out as the most prominent; it pioneers an electronic trading platform that allows efficient exchanges and transactions with minimal start-up costs. Note that the term *low level* does not indicate that these innovations are less important or require less technology, talents, or business acumen.

While both kinds of innovations are necessary to help entrepreneurial firms survive fierce competitive challenges, government policies that support innovations come in different forms. To provide incentive for firms to invest in the high-level innovations, governments can provide tax breaks on research and development (R&D) expenses or set up competitive grants to carry innovative firms through the R&D phase of the business. To promote entrepreneurship in low-level innovations that improve business process or conduct price arbitrage, government investments in infrastructure might be critical.

Now consider a Chinese entrepreneur who wants to build a business based on one of his inventions, developed with a government small business innovation grant. How likely is it that his business is going to be profitable and sustainable? Profitability might be obtained, but

sustainability is not likely in the long run. As soon as the product hits the market, copycats will quickly drive the profits down to nil. Even technologically sophisticated innovations are subject to reverse engineering, and cheap copycats can reap all the benefits of the invention without bearing any costs incurred in the development process. This might explain why very few private sector firms in China ever grow into major multinational firms when compared to their international peers.

The above scenario highlights the fundamental roles of intellectual property rights (IPR) protection in promoting innovation-based entrepreneurship. With no protection of IPR, few entrepreneurs will succeed, even with the help of government grant money. On the macroeconomic level, the equilibrium outcome is that few would engage in innovation or innovation-based entrepreneurship.

Lack of IPR protection is particularly detrimental to innovative small firms. First, relative to established firms, a greater proportion of a small, innovative firm's value is derived from intangible assets. Entrepreneurs incur larger losses when the protection of their brainchild is lacking. Second, entrepreneurial undertaking is generally considered high risk and is likely financed with a high cost of capital. Thus, the cost of innovation is higher in smaller firms. Third, large firms may have the capacity to protect their intellectual property rights through vertical integration and research networks. Zhao (2006) asks an intriguing question why companies place their research facilities in poor IPR protected countries. She finds that the research conducted and products developed in these facilities are generally not valuable when they stand alone without fitting into a greater technological structure. The value of the research can only be realized when combined into the mainframe technology available in the headquarters, located in countries with good IPR protection. These venues are most likely not available to small firms.

Therefore, entrepreneurial activities are more scant in countries with poorer IPR protection, as upstarts are particularly vulnerable to IPR invasions. Government policies aiming at protecting IPR would unproportionally encourage pursuits of innovative ideas and the formation of new enterprises.

Bureaucrats in Business

Frye and Shleifer (1997) classify governments' involvement in the economy into three different levels. The first, termed as "the invisible hand," refers to a government that restricts its activities to providing the basic social infrastructure such as law and order, some regulations and contract enforcement, and not getting involved in private economic activities. The next is "the helping hand," describing those governments that actively pursue some sort of industrial policy, supporting selected firms and industries and facilitating economic transactions. Corruption is present but organized and often involves those bureaucrats high

up with major decision-making power. The third is "the grabbing hand," which intervenes in every aspect of economic activity and preys on businesses in every encounter. Corruption is rampant, and paying bribes is a way of life for businesses.

Entrepreneurship is most likely to blossom under an invisible hand government. Under the helping hand and the grabbing hand, potential entrepreneurs face two distinct problems: the resource allocation problem and corruption. The discussion that follows will focus on the resource allocation problem. Issues in government corruption will be discussed in the next section.

The most direct way a government gets involved in resource allocation is by setting up state-owned enterprises (SOEs). Other channels include establishing large grant and subsidy programs and setting price controls. SOEs are generally large in scale and occupy key industry sectors and are therefore the most visible and researched while evidence about the other channels tends to be more scattered.

SOEs make up significant proportions of many nations' economies. Data collected by the World Bank shows that on average, government investment in state-controlled enterprises account for 14% of the total gross domestic product (GDP) worldwide during the 1990s, an era of massive privatization. Through direct involvement in these enterprises, governments retain control of "strategic" sectors, carry out industrial policies, and achieve social and economic goals.

Bureaucrats tend to make poor business managers. Studies comparing the financial performance of former SOEs before and after privatization find, with very few exceptions, that state-controlled enterprises lack the operating efficiency found in the private sector, and that the results are insensitive as to which country the study took place (see, e.g., La Porta & López-de-Silanes, 1997; Megginson, Nash, & van Radenborgh, 1994). In other words, SOEs are inefficient users of valuable economic resources.

Efficient marketwide capital allocation therefore will not be possible when bureaucrats take control of limited resources and invest in a large SOE sector. Similarly, when bureaucrats hand out subsidies to the preferred individuals to establish selected industries, fix prices for goods and services, or through any other means effectively remove the price discovery and communication process by the free market, resource misallocation occurs.

Resource misallocation carries a large negative externality on the formation of entrepreneurial pursuits. First, excess government investments crowd out private investments by bidding up factor prices. With deep pockets supported by tax revenues, governments face "soft" budget constraints, and tend to overinvest. That leaves less capital for the private sector and raises the cost of capital for the private sector. Second, inefficient SOEs raise the costs of doing business for private market participants. Many governments designate SOEs to be the sole suppliers of raw materials, utilities, and telecommunications, and their

monopolistic positions give SOEs the market power to set prices at levels much higher than those achieved through free-market competition.

Third, when the government invests in public enterprises to carry out social engineering goals, it inevitably becomes business partner of the large private sector. It is simply more transaction-cost-efficient to deal with a handful of large businesses and their principals than to coordinate with thousands of small businesses. Direct dealing between the government and large businesses could then lead to government policies favoring the established and obstructing the creation and growth of new ventures.

Fogel (2006) shows that oligarchic family control of the largest businesses is prevalent in countries where governments' involvement in business activities is direct and extensive. Bureaucrats, captured to be long-term business partners to the principals of the established businesses, might promote policies that preserve the status quo of the established and curtail competition and innovation from upstarts.

Studying governments' roles on entrepreneurial entry in Europe, Fogel, Hawk, Morck, and Yeung (2006) find a higher entry rate in countries where price controls are less common, more government subsidies go according to merit but not connections, and the award of public contracts is less opaque.

Hayek (1944) and others argue that central planning and government intervention are inherently inefficient and will inevitably lead to uncontrollable discretionary power for politicians. Entrepreneurial activities would likely be suppressed as bureaucrats use (or abuse) their power to control monopolistic sectors, bid up factor prices, and partner with oligarchs.

Entrepreneurial spirit unleashes when government relinquishes control of the productive assets through privatization programs. Post-Communist Poland, for example, witnessed the transition of about 80% of its business from public to private hands in 1990 and 1991 alone. More important was the "immediate and dynamic growth in new privately owned businesses," according to Curtis (1992), who recounted that "[i]n 1990 about 516,000 new businesses were established, while 154,000 were liquidated, a net increase of 362,000. . . . By September 1991, an additional 1.4 million one-person businesses and 41,450 new companies had been registered since the beginning of the year."

ENTRY REGULATION

Many governments allow new firms to start only when they meet certain requirements. Entry regulations help protect consumers and investors by screening out bogus businesses. However, excessive entry regulation, motivated by unscrupulous politicians collaborating with incumbents attempting to impede competition, might serve as the most effective deterrence to entrepreneurial formation.

Hernando de Soto, a native Peruvian, is the first to study the costs of entry using a field-study approach. Trying to understand why many businesses in Peru operate outside of legal institutions and give up all the protection and facilities afforded by the formal sector, De Soto and his research team simulated the experience of an ordinary person going through all bureaucratic requirements to legally register a small garment factory. Their findings were astounding. Without connections in the government, this person of average means would need to spend 289 days to fulfill the 11 bureaucratic procedures required to set up a small factory. The total pecuniary costs incurred in the process amounted to 32 months of minimum living wages. De Soto argues it the high cost of red tape forces as much as 61% of productive hours worked in Peru into the informal sector and it limits growth of the small entrepreneurial establishments as they were hiding from authority and deprived of access to external financing, marketing, and official arbitration of contract disputes.

The pathbreaking work by De Soto (1989) was carried out by the World Bank Doing Business project (<http://www.doingbusiness.org>) in almost every country in the world. Djankov, La Porta, and Lopez-de-Silanes (2002) document the effort and show that entry regulations vary drastically across countries. The total number of days it takes to legally register a business ranges from 2 days in Australia to 694 days in Suriname, with a median of 35 days across the globe. The total number of bureaucratic procedures ranges from 2 procedures in Canada, New Zealand, and Australia to 20 in Equatorial Guinea. The minimum investment capital required for a start-up is about 5% of per capita Gross National Income (GNI) in the Organisation for Economic Co-operation and Development (OECD) countries, and about 163% of per capita gross national income (GNI) in Sub-Saharan countries.

De Soto's concern is vindicated in a large cross-section of countries. Entrepreneurs face more cumbersome screening and licensing procedures to register a business in relatively poorer countries. Contrary to the popular belief that these regulations are necessary to screen out deceitful entrants or correct market failure like a monopoly or negative externality like pollution, more regulations do not bring the citizens of those countries higher quality public goods, safer products, or less pollution. However, more start-up requirements are associated with more widespread corruption. Lengthier screening procedures provide ample opportunities for bureaucrats to collect side payments. Consequently, more businesses in those countries choose to operate in the informal sector. In a word, Djankov et al. (2002) argue that entry regulation is created not to protect the public, but to extract rent from entrepreneurs and enrich politicians and bureaucrats.

Klapper, Laeven, and Rajan (2006) empirically study the relationship between entry cost and the rate of new firm creation in a sample of European countries. They indeed find that fewer firms form where bureaucratic requirement

of entry is higher. They also find that excessive entry regulation particularly discriminates against small firms, forcing the average size of successful entrants to be larger. With more protection against new entrants, the growth in value added from incumbents is slower, as their survival strategy relies on their incumbency status rather than on innovation and productivity gains.

POLITICAL RENT SEEKING

As governments actively engage in pursuing industrial policies or excessively regulate every aspect of private economic transactions, they risk developing into “mercantilist” states. First used to describe the economies in Europe between the 15th and 19th centuries, “mercantilism” refers to a politically administered economic system in which the government grants special economic privileges to a selected group of favored agents—the “merchants”—through licensing, regulations, preferential taxes, and subsidies. Entrepreneurial success in a mercantilist state entails the ability to infiltrate the government, win privileges, and use the law and regulations to advance one’s own benefits and interests. Politicking does not produce new wealth; it simply redistributes wealth through government intervention. On the other hand, genuine entrepreneurship that invests in innovation and productivity gains could not launch as bureaucratic obstacles render markets inaccessible to outsiders.

A state rooted in mercantilist institutions need not be equated to a corrupted state. For example, political contributions by private businesses to congressional candidates are not only legal, but also receive preferential tax treatment. Activities of this sort are generally termed as “political rent seeking” in modern times and exist in almost every country in the world.

The payoff to political rent seeking is generally large, often many times greater than that from investment in productive assets. One recent study by Liebman and Reynolds (2006) shows that the amount of congressional contribution is positively correlated with the financial gains the contributors receive after passing an antidumping law that distributes fines to U.S. firms. Murphy, Shleifer, and Vishny (1991) show that handsome returns to political rent seeking divert a nation’s top talents away from productive investments.

Political rent seeking resembles ancient mercantilism and can be detrimental to genuine entrepreneurship and economic development in many ways. First, established businesses invest in lobbying and establishing connections to pass favorable legislations to entrench themselves and impede entry. De Soto (1989) argues that the government itself does not have the knowledge and expertise to develop the long, detailed, redundant, and obscure regulations. The details in the regulations are supplied by the incumbent to stop potential entrants and curtail competition. Second, the favored group would likely turn its economic might into political power and distort the development of key insti-

tutions such as private-property rights, law enforcement, and access to external finance. Entrepreneurship withers without these essential institutions. Third, large, established businesses have a natural competitive advantage over small, new entrants in the lobbying game. The established can finance the cost of buying connections using their firms’ retained earnings, whereas the newcomers can only dip into the not-so-abundant start-up capital or offer a promise to pay when a firm becomes profitable. The established could also utilize the economy of scale and is therefore more cost efficient compared to new market entrants.

Studying the history of financial markets in 18 countries, Rajan and Zingales (2003) find that the development of these markets does not increase monotonically over time through the 20th century. They find instead that in most countries, the sizes of the equity markets, relative to the countries’ total GDP, were bigger in 1913 than in 1980. The markets exceeded their 1913 level only by the end of the 1990s. Also in 1913, equity issues served as a more important source of funds for corporate investments than in 1980 and in 1990. Rajan and Zingales develop an interest-group theory, arguing that financial market development might be purposely depressed by the incumbents, through lobbying, connections, and rent seeking. A weak financial system gave these incumbents competitive advantages in securing capital at low cost. It also starves new firms of financing at arm’s length and prevents the rise of new entrepreneurial competition that might lead to the demise of the incumbent firms. Similarly, Morck et al. (2000) and Johnson and Mitton (2003) show that ineffective financial markets preserve the interests of dominant business families by limiting market access from start-ups.

In summary, political rent seeking proves to be an extremely unproductive use of valuable resources. Lobbying itself does not improve productivity, but diverts valuable resources away from real investments. High returns of rent seeking also attract the nation’s best talents away from becoming originators of innovation. Moreover, entrenched power could use rent seeking to manipulate the rules of the game so that they are most favorable to their interests, block entry and competition, and preserve their economic and social status. In all, a government carrying on the mercantilist heritage generally does not provide fertile grounds for entrepreneurship.

CORRUPTION

While corruption raises the cost of doing business for every firm, entrepreneurial firms can be particularly vulnerable. New entrants might fall prey to the grabbing hand of corrupted bureaucrats over licensing, registration, and inspections. Small business owners might be asked for side payments to avoid being assessed with extravagant tax bills. They might also need to buy connections to obtain permits for importing or exporting. While similar problems might

confront owners of larger businesses, newly minted entrepreneurs lack the status, connection, and personal wealth to weather through the hostile environment.

It is not uncommon for entrepreneurs to find themselves in a situation such as that in China, where someone dressed in official uniform, be it the fire inspector, someone from the health and safety commission, a tax collector, or the police, shows up at the premise and in no time finds a reason why the company does not meet the standard and deserves a fine. Most of the time, the fine in its official form will not be paid. Instead, either the inspector, or his or her superior, or someone connected to one of them receives a handsome personal gift and the case is then closed. It is no wonder that the most desirable jobs in China are found in the large hierarchy of government.

Friedman, Johnson, Kaufmann, and Zoido-Lobaton (2000) study the underground economy in 69 countries and show that more entrepreneurs choose to operate underground in countries where regulation and bureaucracy burdens are more onerous, not where marginal tax rates on the book are higher. However, excessive bureaucratic procedures coupled with a corrupted crew of tax collectors might amount to a much higher tax rate that forces businesses to dodge into the informal sector. Friedman et al. also noted that corruption undermines the total tax revenue the government collects, reduces the government's abilities to provide efficient administration and other productivity-enhancing public goods, and further makes it unattractive to operate in the official sector.

A government's effort to eliminate corruption therefore boosts entrepreneurial formation in a number of ways. First, it lowers the direct costs associated with entry and makes entry more affordable. Entrepreneurs tend to start out poor and less connected. Lowering initial capital requirement enlarges the pool of potential entrants. Second, entrepreneurs will work hard if they know that their future property rights are relatively secure. A hostile environment imposed by corrupted officials increases uncertainty and business risk. Third, it levels the playing field. Entrepreneurs with no connections are more likely to invest and pursue their dream if they can envision moving their way up socially through hard work and business acumen.

UNIVERSAL EDUCATION, DIVERSITY, FREEDOM OF PRESS, AND CAPITAL AND TRADE OPENNESS

Literacy is one basic requirement for entrepreneurs. To handle any business transactions effectively, an individual needs the basic skills of literacy and math. Successful government policy aiming at providing low-cost, universal education to the entire population increases the supply of entrepreneurs. Universal education is particularly important to the disadvantaged population such as ethnic minorities or those at the bottom of the income distribution.

A better-educated population supports entrepreneurship in knowledge-based economy and improves national competitiveness over the long run. Analyzing the determinants of new firm formation across regions in the United States, Acs (2006) finds that measures of human capital, such as the number of college graduates as a percentage of the total adult population, can explain the regional difference in the rate of new business formation. A local population's level of education attainment particularly affects market entry of new enterprises founded by highly educated entrepreneurs. Acs proposes that education is the greatest barrier to entry.

Ethnic and cultural diversity and the rights of free expression of ideas promote diversity in views and opinions and support the discovery of information and new ideas that lead to entrepreneurial creation. The freedom of mass media imposes constraints on the government and business elites and discourages deceit, self-dealing, and corruption. Corruption can be found in a democracy or a dictatorship; the difference is that dishonored officials in a democracy are exposed and likely removed from office, whereas their counterparts continue to receive unanimous praise and find deeper pockets to pick.

Free capital and trade flows across borders introduce firms to expanded profit opportunities, more readily available capital, and more intensive competition. A global market reduces entrenched firms' market power and incumbents' abilities to preserve the status quo. International capital flows circumvent inadequate indigenous institutions to supply capital to entrepreneurial firms (Fogel et al., 2006a). Zhao, Fogel, Morck, and Yeung (2006) argue that where entrepreneurs are abundant, trade and capital flow liberalization facilitate institutional development, reduce the cost of doing business, and promote entrepreneurial entry.

CONCLUSION

An entrepreneur creates new business organizations to identify market opportunities, carry out new combinations of the productive elements, and actively engage in risk taking. In doing so, the entrepreneur invents new products and new business processes to fulfill market deficiencies and arbitrage away any inefficiency. The innovative nature of entrepreneurship thus dictates that it is the fundamental engine for economic growth. Aghion and Howitt (1992) show that innovations that involve creative destruction drive growth. Fogel, Morck and Yeung (2007) show that economies whose new, innovative firms continue to rise to eclipse larger firms enjoy faster GDP, productivity, and capital accumulation growth, holding each country's initial levels of per capita GDP, per capita capital stock, and human capital constant.

This chapter discusses various measures governments could use to facilitate the formation of entrepreneurial

firms. Entrepreneurial activities would boom when the government stands on firm ground to protect private citizens' property rights, reduce bureaucratic delays, boost bureaucratic efficiency, restrict its presence in the private sector, and curtail corruption. Entrepreneurship would also enjoy a lift where the government toughens up legal enforcement on IPR protection and loosens its control on mass media and international trade and capital flows.

A few years after the World Bank Doing Business project published national rankings in formal start-up procedures and costs, many national governments started political and legal reforms aimed at tackling bureaucratic inefficiencies and providing more streamlined service to citizens to comply with legal and administrative requirements. Between January 2005 and April 2006, 213 regulatory reforms took place in 112 economies (World Bank, 2007). Many of these reforms focus on strengthening private-property rights protection, simplifying entry regulations, and reducing tax burdens. For example, one reform in Georgia (independent since 1991 from the Soviet Union) dropped the minimum capital required to start a new business from 2,000 lari to 200 (\$85). Entrepreneurs enthusiastically embraced this change by raising business registrations by 55% between 2005 and 2006. The evidence clearly supports the notion that governments' actions matter in entrepreneurial creation.

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6

WOMEN ENTREPRENEURS

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The topic of women entrepreneurs has attracted a considerable amount of academic attention in recent years. Indeed, it is fast becoming a primary focus for scholars, practitioners, and policy makers worldwide who work in the field of small business management and entrepreneurship. Generally speaking, women entrepreneurs have been in the minority in comparison to their male counterparts and are still the largest underrepresented group in entrepreneurship. For example, despite the fact that women make up half of the European population, less than one third of all businesses in Europe are female-led. However, it is now widely accepted that women as entrepreneurs make a valuable contribution to national economies around the world in terms of job creation, economic growth, and wealth generation. Contrary to traditional perceptions about women entrepreneurs starting mainly small and home-based enterprises, it has also been reported that women are now leading the so-called “new economy companies,” with success in high technology, life sciences, and professional services. Thus, the need to increase their participation in the enterprise arena is becoming more important to future economic growth.

Research on women’s entrepreneurship has developed significantly in recent years. According to S. Carter and Shaw (2006), the field of women’s entrepreneurship has moved away from purely exploratory and descriptive studies, characterized by the earlier literature, toward developing stronger evidence bases that report the actual experiences of women’s enterprise in international contexts along with a more sophisticated understanding of complex issues (see, e.g., Carter, Henry, Ó Cinnéide, & Johnston, 2006). This chapter discusses the main themes on women’s entrepreneurship, as characterized by the extant literature in this field. It begins with a consideration of the under-

representation of women in entrepreneurship globally and makes the economic case for encouraging more women to become entrepreneurs. The chapter then discusses the definitional issues associated with the topic, illustrating how these can restrict the scope for robust comparative studies and impact on research findings. Some trends in women’s entrepreneurship internationally are then considered, drawing mainly on the work of the Global Entrepreneurship Monitor (GEM) and the Diana Project.¹ Some of the key characteristics of women entrepreneurs are then discussed, including their motivations for becoming entrepreneurs, their education and work experience, and their levels of confidence and their risk orientation. A major theme in the literature on women’s entrepreneurship has been the barriers and challenges they face in their efforts to engage in entrepreneurship. Under this heading, the discussion covers the traditional role of women and their networking practices, access to finance, the tendency to undercapitalize their business, and growth perceptions.

The latter part of the chapter deals with policy and support for women’s entrepreneurship and indicates the future direction of the field, with some suggestions for further research. The chapter closes with a summary. A bibliography, including some suggestions for further reading, and some cross-referencing to other chapters in this handbook, are also provided.

THE CASE FOR WOMEN’S ENTREPRENEURSHIP

The importance of women as an untapped source of real entrepreneurial talent is now widely accepted. According

to reports by the Global Entrepreneurship Monitor (GEM), increasing the number of women entrepreneurs involved in starting new businesses is critical to a country's long-term economic growth. Indeed, international comparisons highlight that the world's most entrepreneurial economies have a high representation of female entrepreneurs. However, most firms are still started and operated by men, with men being twice as likely as women to be involved in entrepreneurial activity worldwide and fewer self-employed women than self-employed men across all business sectors. Women are also more likely to run smaller businesses in comparison to their male counterparts.

According to J. Watkins and D. Watkins (1984), the contribution that women make to the business sector was not actually recognized until the mid 1980s. This was when a number of studies relating to gender-specific barriers in entrepreneurship, motivation for starting a business, and comparisons with male entrepreneurs started to appear in the literature. Since then, studies on women's entrepreneurship have dealt with a wide range of topics, including those pertaining to characteristics and management style, entrepreneurial background, confidence and risk orientation, growth and financing strategies, policy and support, and the range of challenges facing both aspiring and established women entrepreneurs. The overriding message from all these studies is that while entrepreneurs share a number of core characteristics and challenges, women and men are different in their approach to entrepreneurship and, generally speaking, this is reflected in the type and size of businesses that women set up and in their growth aspirations. Such differences, while not always accounted for in policy and support initiatives, need to be recognized and accommodated if a steady supply of entrepreneurs is to be maintained and the growth of the economy is to be fully exploited.

DEFINITIONAL ISSUES

A woman entrepreneur has been defined in the literature as "a woman who has initiated a business, is actively involved in managing it, owns at least 50% of the firm, and has been in operation one year or longer" (Moore & Buttner, 1998, p. 13). However, not all researchers adopt the same definition. In the United States, for example, the Census Bureau defines women entrepreneurs as leading firms in which they "own 51% or more of the interest or stock of the business." Sometimes, due to data restrictions, it is difficult to determine the exact ownership split of a firm, or indeed, which of the owners is deemed to be the lead entrepreneur or managing director. Thus, the definition of women entrepreneurs may also include women who own less than 50%, are visibly involved in the management of the business but do not necessarily hold the most senior role in the firm, or have not actually started a business but are now running one as a managing director.

S. Carter and Shaw (2006) point out that self-employment data are often used to measure business owner-

ship, but that such data do not fully account for all enterprise-related activities. This is because not all business owners are self-employed, and not all self-employed are business owners.

In their study of Danish women entrepreneurs, Neergaard Nielsen, and Kjeldsen (2006) suggest that the broad definition of women entrepreneurs can cover the following categories:

- Self-employed entrepreneur: a woman who establishes a new venture as her primary occupation, typically in a traditional sector.
- Traditional, self-employed worker: a woman who takes over and runs an existing company.
- Growth-oriented entrepreneur: a woman who sets up a limited company and may be viewed as a salaried employee of that company.
- Leisure or hobby entrepreneur: a woman who starts a business to generate a second income.
- Family-owned business: a woman who inherits a company from her parents.
- Networked entrepreneur: a woman who is a free agent and works from project to project. Sometimes this category of entrepreneur is referred to as portfolio working.

In a similar vein, Bruni, Gherardi, and Poggio (2004) describe broad patterns of women's entrepreneurship and suggest that women entrepreneurs can be profiled as follows:

- Aimless young women: those who set up a business as an alternative to career advancement in their current workplace. Such women do not typically have children.
- Dualists: those who have substantial work experience and need to reconcile work and family responsibilities.
- Return workers: women who have quit their previous jobs to look after their families and are motivated by economic considerations.
- Traditionalists: women with family backgrounds in which owning and running a business is a long-established tradition.
- Radicals: women who are motivated by a culture antagonist to conventional entrepreneurial values and who set up initiatives intended to promote the interests of women in society.

Given that there are several different ways in which women entrepreneurs can be defined and categorized, it must be recognized that such differences will have an impact on research studies and their findings. The lack of gender-disaggregated statistical data in some countries also serves to compound such definitional issues.

INTERNATIONAL COMPARISONS

A survey conducted by the Organisation for Economic Cooperation and Development (OECD) in 2005 showed that there were higher levels of self-employment in southern

Europe than in the north during 2003. Women's level of self-employment² was found to be highest in Greece, Italy, Poland, Portugal, and Turkey, and lowest in Norway, Sweden, Denmark, France, and Ireland. Interestingly, the equivalent level was lower in the United States during this period (see S. Carter & Shaw, 2006). Despite this, the level of women's business ownership in the United States has been consistently and significantly higher than in most other developed countries. While this discrepancy may seem surprising, it highlights key differences in the ways in which figures relating to female entrepreneurship are reported. Difficulties in finding robust statistical sources, accessing gender-disaggregated data, and the fundamental issue of defining the female entrepreneur all serve to compound the task of measuring the level of female entrepreneurship and drawing international comparisons.

The Global Entrepreneurship Monitor (GEM) Reports record the Total Entrepreneurial Activity (TEA) rates in a range of countries. The GEM research teams use adult population surveys, conducted by telephone or face to face, to yield a representative sample of the population in each country. Two categories of entrepreneur are used: early stage and established. The early-stage category includes nascent entrepreneurs, that is, those individuals who are preparing to set up a business as well as those individuals who have already set up a business within the last 42 months. The second category includes individuals who own or manage a business that has been in operation for more than 42 months. While these reports measure trends in both men's and women's participation in entrepreneurship, the GEM team has recently started producing a dedicated Women's Entrepreneurship Report. The most recent of these (Allen, Langowitz, & Minniti, 2007) draws on data from 40 countries to provide a cross-national assessment of women's entrepreneurship. Based on figures from 2006, the report shows that the highest level of women's entrepreneurial activity occurs in the low- and middle-income countries, such as the Philippines and Russia, while the high-income countries, such as Belgium and Sweden, exhibit the lowest levels of women's entrepreneurship. According to GEM (2007), the overall entrepreneurial activity rates (combined early stage and established) for women range from the lowest levels of 1.91% in Belgium (compared to 7.74% for men); 3.88% in Germany (compared to 7.57% for men) and 3.18% in Singapore (compared to 9.16% for men) to 49.90% in the Philippines (compared to 55.12% for men), 35.8% in Russia (compared to 44.55% for men), and 33.34% in India (compared to 40.47% for men).

One of the largest qualitative studies of women's entrepreneurship was conducted by the U.S.-based Diana research team in 2006. The Diana team has been studying women's entrepreneurship in the United States since 1999, and their work has adopted an international comparative perspective since 2003. Their 2006 study considered the phenomenon of women's entrepreneurship across 14 countries: Australia, Bulgaria, Canada, Denmark, Finland, Germany, Ireland, New Zealand, Northern Ireland, Nor-

way, Slovenia, Spain, the United Kingdom, and the United States. While the study found a number of similarities in the nature of women's entrepreneurship across the various countries, it also found a number of differences. For example, a comparatively high level of women entrepreneurs—around 33%—was found in Australia; however, women were less likely to be employers of other people even though their businesses were contributing nearly 40% of the gross domestic product (GDP) to the economy. In Denmark, relatively few women chose to become entrepreneurs despite being actively engaged in work outside the home. Indeed, only 25% of the self-employed in Denmark are women. German businesswomen cluster in the services sector and, similar to the Australian experience, are less likely to have employees. In Norway, women entrepreneurs tend to be in the 30-to 40-year-old age bracket, and represent around 27% of business owners. Similar to the women's businesses in most other countries in the study, their businesses were smaller, with lower growth aspirations. Finland reported a decline in the number of women-owned businesses over the past decade, despite the country's strong tradition of gender equality. In Canada, while women account for a sizeable proportion of entrepreneurial activity, they do not participate in entrepreneurship at the same rate as men. It is also suggested that Canadian women entrepreneurs make deliberate choices about restricting the size and pace of growth of their businesses. In Ireland, women entrepreneurs are also in the minority when compared to their male counterparts, and their participation in entrepreneurship compares poorly with levels in other countries. The low level of entrepreneurial activity may be attributed in part to the lack of a dedicated policy on women's entrepreneurship and the absence of government-led support initiatives. In contrast to these trends, women's entrepreneurship in the United States is strong and the gender gap between men and women's participation in new-venture creation and management has narrowed considerably. For example, in the United States, women lead 10.6 million private firms, which contribute in excess of \$2.6 trillion to the U.S. economy.

CHARACTERISTICS OF WOMEN ENTREPRENEURS

While it is now widely accepted that entrepreneurs, regardless of gender, share a number of common characteristics such as drive, enthusiasm, commitment, creativity, problem-solving ability, and innovative flair, among others, the literature reports that women entrepreneurs also display some unique characteristics that distinguish them from their male counterparts. Women are often described as being more customer oriented in their enterprise dealings, applying "softer" management styles, valuing the human capital and cultural aspects of their business, and placing more importance on the quality of the product or service they provide.

Motivations

The literature reports a range of reasons why women choose a career in entrepreneurship. Indeed, some of these reasons were alluded to in an earlier section of this chapter. It has been suggested that women enter the entrepreneurial arena because of a complex mix of constraints and opportunities, of external coercions and subjective aspirations (Bruni et al., 2004). Regardless of the specific motivation, it would appear that, when it comes to setting up a business, women entrepreneurs are less motivated by profit than their male counterparts. For example, it has been reported that most women who engage in new-venture creation are driven by their pursuit of independence as well as a sense of self-fulfilment and are in search of a work-life balance that suits their particular personal and family situation. Self-employment is often viewed by women as a more flexible working option when compared to traditional employment, providing more free time and facilitating childcare responsibilities. However, this is not always the case, as most entrepreneurs, regardless of gender, tend to spend considerably more time getting their business off the ground than they had originally anticipated. Furthermore, it has also been suggested that women start a business because of restricted progression opportunities in the workplace—the so-called “glass-ceiling” effect.

Education and Work Experience

When compared to men, it would appear that most women enter self-employment with less management experience and fewer financial assets and are relatively under-resourced in terms of human capital. However, according to the literature, today’s women entrepreneurs are now more highly educated than in previous years, with many attaining degree-level qualifications in discipline areas that are directly relevant to their chosen business sector. Despite this, women tend to lack management experience—often considered to be critical to business success—and do not appear to have reached the same level of seniority in their careers as men. Given the relative lack of women pursuing further study in the science and technological disciplines, it is not entirely surprising that there are fewer women starting businesses in these areas. It has been noted that, in terms of new-venture creation, women tend to be more attracted to the services sector, starting businesses in training and consultancy, beauty, design, and a range of professional and therapeutic services. Others start businesses in retail, fashion and clothing, arts and crafts, and the provision of crèche facilities. Furthermore, women-led businesses have a tendency to be small-scale ventures that are nongrowth oriented, risk adverse, and undercapitalized. Indeed, they have often been negatively categorized as “lifestyle” or “typical women’s businesses.” However, research in the United States by Langowitz (2001), among others, has provided evidence that women are also setting up and running the so-called “new economy” companies with highly

successful ventures in nontraditional sectors such as high tech and construction.

Confidence

It has been suggested for some time that women entrepreneurs have less confidence in their entrepreneurial abilities than men. This is often evident from the outset in the way in which they present their business proposals, their attitudes to sourcing finance, their dealings with finance providers, and their attitude to risk. Such lack of confidence has been attributed to women often having fewer resources at the start-up stage, their lack of management experience, particularly senior management experience where decisions on resources are made, their unfamiliarity with business language, and the traditional view of women as mothers and carers rather than as entrepreneurs and risk takers. Thus, the literature often links lack of confidence to risk orientation and access to finance.

Risk Orientation

The small-business literature suggests that risk and entrepreneurship are inextricably linked, with risk-taking propensity being identified as a key entrepreneurial characteristic. However, it must be remembered that in new-venture creation, risk is not purely restricted to finance. In the earlier literature, Liles (1974) identified three other types of entrepreneurial risk in addition to finance: career, family/social, and psychological. Having said this, not surprisingly, discussions on risk tend to focus on the financial aspect, as this is the most tangible type of risk. In this regard, successful entrepreneurs are deemed to be calculated risk takers, and in some cases, due to the limited liability of the company, do not even have to bear the financial risk themselves.

It has also been suggested that women tend to manage risk differently than men, with women appearing to be more concerned about the associated dangers and consequences. Some evidence suggests that women are reluctant to take on the burden of business debt (Marlow & Carter, 2006). In general, the literature reports male entrepreneurs making more risky judgements than their female counterparts, leading to the conclusion, rightly or wrongly, that women entrepreneurs tend to be more risk averse. However, as summarized by Brindley (2005), there are a number of different factors, apart from gender, that could account for the differences in attitudes toward risk by male and female entrepreneurs. The particular background and education of entrepreneurs, their social class and ethnicity, the type and stage of business in which they are involved, the amount of social and intellectual capital they bring to the business at the start-up stage, their particular aspirations and motivations, and the ways in which they have been exposed to and educated about risk in the past. In addition, the family dimension is also viewed as particularly important in the context of women’s entrepreneurship, as most women with

children will, for obvious reasons, take a more serious view of risk. Thus, the conclusion that women are more risk averse than men must be viewed with caution, given the range of influencing factors involved.

BARRIERS AND CHALLENGES FACING WOMEN ENTREPRENEURS

According to Bruni et al. (2004), women entrepreneurs face three main types of barriers. Firstly, there is the sociocultural set of barriers, which suggest that women's primary role is embedded within the family. In this regard, women are viewed in the traditional sense as wives, mothers, and caregivers, with mainly childcare and domestic responsibilities. This perception, in many ways, prevents society from credibly viewing women as having a business or commercial role. Secondly, there are barriers relating to networks of information and access to assistance. Such networks and information are critical to the success of any business but are sometimes more easily accessible to men than they are to women. Thirdly, access to finance and investment funds is a particularly significant barrier, as it impacts the potential growth and sustainability of women-led businesses.

Other constraints, which are not entirely unrelated to those just described, include issues surrounding work-life balance, women's restricted access to career advancement opportunities, and the gender pay gap in the workforce, where there are still, alarmingly, significant differences reported between male and female rates of pay. Some of these different types of barriers are discussed next.

The Traditional Role of Women

In many countries around the world, women have typically been viewed in the most traditional sense. Historically, women have always been homemakers with often the sole responsibility for children and other family dependents. Although women started to become an active part of the workforce in the 1940s, in some countries, laws establishing equality only became an issue in the 1970s. In particular, in some countries, notably Ireland, the "Marriage Bar"—a law requiring women to retire from employment in the civil service upon marriage—was not abolished until 1973; however, its negative impact lasted much longer than that (see, e.g., Henry & Kennedy, 2003). This traditional perception of women is important in the context of entrepreneurship. It is widely accepted that work experience is critical to entrepreneurial success; thus, women's potential lack of a career history has a direct impact on their entrepreneurial abilities, perceived or otherwise.

Maternity leave and family responsibilities also have their own particular impact on entrepreneurial endeavors. Evidence suggests that women's careers suffer significantly as a result of taking maternity leave, parental leave, or career breaks for family purposes. Such breaks not only reduce women's experience levels and track record in the

workplace, but may also impact negatively upon potential incremental pay increases. A study conducted by Williams (2004) estimated the effects of time spent caring for children on the duration of self-employment across eight countries. The study found that caring for children had a negative impact on entrepreneurship endeavours, significantly reducing the duration of self-employment ventures in most of the countries studied. The results were found to have an even greater negative impact in countries where childcare provision was poor. This is an important consideration in the context of women's entrepreneurship, since many women engage in new-venture creation as a means of balancing childcare and work responsibilities. Furthermore, even where start-your-own-business programs are widely available, they rarely incorporate provision for childcare.

Networking Practices

In recent literature, one of the key differences identified between male and female entrepreneurs is the way in which they network with others. Indeed, it has been acknowledged that women simply do not do business in the same way as men, and this is particularly evident in the way in which they build and manage their personal business networks.

Women's networks, in the informal sense, tend to consist mainly of family and friends and are driven by a need to maintain a strong social affiliation and develop supportive relationships with other women. While these sorts of networks often provide emotional support and encouragement for women entrepreneurs, they may not have the potential to build the types of connections that are typically needed to succeed in the business world. To some degree, this same approach is carried through to women's formal business networks, which also tend to be characterized by an all-female participation. While single-gender networks have proven extremely beneficial for women entrepreneurs in helping them build their networking competencies, particularly at the very early stages of their business development, such networks need to evolve and expand as the business grows. Ensuring a sufficient range and quality of contacts, and including male entrepreneurs in the network, are critical to the long-term success of women-owned businesses.

McGowan and Hampton (2006) suggest that women entrepreneurs adopt different approaches to business networking, depending on the length of time they have been in business. These can be categorized as follows:

- *Early learner*: includes women who are reliant on all-female networks; have a low confidence level and are typically at the very early stages of their business development.
- *Wannabe*: includes women who have been running their businesses for 2 or 3 years; are working toward establishing their firms and are actively seeking to expand their networks beyond women-only membership.
- *Myopic*: includes women who have already established businesses but have a lower confidence level and have failed

to explore other networking opportunities and remain reliant on contacts from their all-female network.

- *High-flyer*: includes women from more established businesses who utilize networking for the benefit of growing their businesses, and their network membership is based on quality and expertise rather than gender.

While networking is critical to the success of any business, it can be particularly important for women entrepreneurs in helping them make valuable business contacts and grow their businesses. A network that provides women with appropriate business connections from both male and female entrepreneurs will be of most value in the long-term.

Access to Finance

The issue of finance remains one of the most significant barriers for women entrepreneurs, with reports of underlying discrimination on the part of finance providers. While research suggests that women have become more successful in recent years in accessing funding (N. M. Carter, Brush, Gatewood, Greene, & Hart, 2003), they still face problems, particularly when accessing equity finance, which is often needed to facilitate rapid growth. Women entrepreneurs face a number of problems in raising funding at key stages in developing and growing their businesses, and some evidence indicates that accessing bank loans is somewhat more problematic for women business owners than it is for men. Studies have shown that women have a tendency to rely on personal savings at the start-up phase of their businesses, only seeking bank or other sources of funding as the business develops.

For many women attempting to finance their businesses, the main issue they face is their need to borrow only small amounts of money. Often, women set up businesses in sectors requiring little start-up capital, which can pose problems for women entrepreneurs as most small-to-medium-sized enterprise (SME) finance tends to have a minimum capital requirement. For any business wishing to grow and expand, external sources of finance are typically required, such as equity investments, which can come from multiple sources, including venture capital, business angels, and direct investments from financial institutions. However, as Brush (1997) has pointed out, women tend to face greater difficulties than their male counterparts when trying to raise capital to fund the growth of their business. This may often be due to women's difficulty in penetrating informal financial networks, which underlines the importance of building appropriate business networks from an early stage.

Establishing credibility and a credit track record with financial providers is a particular difficulty for women entrepreneurs. This is often because many women have family responsibilities and, because of maternity leave or career break, may not have a continuous work history and associated income stream. Even if they have been in employment, this may not have been full time, and their earnings will typically have been less than men's. Thus, the asset ownership

of many women entrepreneurs may well be significantly lower than that of their male counterparts.

Some evidence suggests that the credit scoring mechanisms adopted by financial providers are inherently designed to discriminate against women. However, additional factors such as a lack of understanding of the business proposal on the part of the lender, and the absence of female lenders in decision-making positions in banks also have an impact. In particular, decisions made by funding agencies and policy makers have typically only been informed by the analysis of male-oriented experiences, which ultimately fail to take into account the experiences of women.

It has been noted that women can also encounter difficulties in financing their ventures because of the widely held perception that they only start hobby or part-time businesses in retail and service sectors, primarily for lifestyle reasons. In a study by Buttner and Rosen (1992) that compared the expectations of men and women in seeking finance, it was found that women were less prone to use institutional finance; when compared to men, they tended to relate the rejection of their loan application more to gender bias, and lenders attributed the refusal of capital to sector and education related factors for men, and to business track record and domestic circumstances for women.

The Undercapitalization of Women-Owned Businesses

Difficulties in accessing start-up capital often lead many women to start businesses that are underresourced, and this initial undercapitalization affects long-term growth. In contrast to their male counterparts, women tend to be more cautious and exercise greater restraint in the amount of finance they need to start their business. Typically, they apply for smaller loans, and these are often perceived by lenders as personal rather than business loans. Marlow and Carter (2005) explain women's preference for starting smaller businesses with smaller amounts of money as a gendered version of Bhide's (2003) "heads I win, tails I don't lose very much" approach.

While male business owners tend to use a combination of bank and investment finance as well as personal assets, women tend to only use personal assets, savings, and personal loans. A study by S. Carter and Rosa (1998) investigated the sources and uses of finance by male and female business owners and showed that men use significantly larger amounts of start-up capital than women. Indeed, the undercapitalization of women-owned firms has often been attributed to the underperformance of their businesses in terms of growth in turnover and number of employees.

Growth Perceptions

Research into the growth of women-owned/led businesses is significantly limited. To date, little is known about women's attitudes to growth and the extent to which the growth aspirations of women are different from that of

their male counterparts. Several theories have been outlined consistent with the notion that women are, typically, much more conservative (risk averse) when it comes to business growth and appear to measure success in terms of goals, such as “self-fulfillment.” It has even been suggested that women owner-managers deliberately choose low (or no) growth options, as evidenced by the following quotation:

Female entrepreneurs are more likely to establish maximum business size thresholds beyond which they would prefer not to expand, and that these thresholds are smaller than those set by their male counterparts. Female entrepreneurs also seem to be more concerned than male entrepreneurs about the risks of fast-paced growth and tend to deliberately adopt a slow and steady rate of expansion. (Cliff 1998, p. 523)

In light of this quotation, women may have self-employment as their initial entrepreneurship goal and may spend longer in this phase (i.e., where they do not employ anyone other than themselves) than their male counterparts.

There is no doubt that understanding how small firms grow is an important issue. In the European Union (EU), for example, SMEs account for over 98% of all businesses and approximately 70% of employment. However, comparatively little is known about firm growth or its determinants. A review of the literature on firm growth reveals that access to finance is a key factor in successfully growing a business. The link between access to finance and firm growth was first identified by Bruno and Tyebjee (1985). Subsequent studies, for example, N. M. Carter and Allen (1997), Berger and Udell (1998), Becchetti and Trovato (2002), and, more recently, N. M. Carter et al. (2003) appear to confirm this link. Such studies also suggest that, in general, SMEs are unable to access the same kinds of growth funding as larger businesses. It has also been suggested that access to finance is heavily dependent on firm-specific factors, such as firm size, location, sector, and the profile of the founding entrepreneur. Furthermore, while finance may be an obvious barrier to firm growth, it has also been suggested that entrepreneurs may conscientiously limit firm growth because of the risk involved or the potential loss of control that is associated with accessing such funding.

POLICY AND SUPPORT

In terms of policy and support for women’s entrepreneurship, the United States has been a recognized leader and has encouraged women’s engagement in new-venture creation since the establishment of its Office of Women’s Business Ownership in 1979, as part of the services provided by the Small Business Administration (SBA). This has no doubt resulted in the United States having the highest level of women’s entrepreneurship across all developed economies.

However, until recently, most EU countries had no specific policy pertaining to the promotion of female en-

trepreneurship. It was not until 2000 that the European Union’s Multi-Annual Programme for Enterprise and Entrepreneurship 2001–2005 (European Union Commission [EUC], 2000) highlighted the promotion of entrepreneurship among women as one of its key actions within the broader objective of making the EU “the most competitive and dynamic knowledge-based economy in the world, capable of sustaining economic growth, with more and better jobs and greater social cohesion.” In the United Kingdom, policy initiatives such as the Small Business Service’s (SBS) Strategic Framework for Women’s Enterprise (2003), the more recent Women’s Enterprise Task Force (2006), and organizations such as Prowess are helping to keep women’s enterprise at the forefront of the economic agenda. While some countries such as Ireland do not yet have a specific policy on women’s entrepreneurship, because of an increased understanding of women’s enterprise and recognition of women’s current and potential contribution to the economy, the effort to increase women’s participation in enterprise is now being addressed by economic development agencies worldwide.

FUTURE DIRECTIONS

While a considerable proportion of the academic literature to date has focused on the barriers to women’s entrepreneurship and the differences between male and female entrepreneurs, attention is now beginning to turn to the particular opportunities open to women in the new-venture creation process. While on the one hand, it is accepted that women can and do start businesses in nontraditional industries such as construction and high technology, on the other, there is still a tendency for women to engage in non-manufacturing sectors with small-scale business ventures in retail, consultancy, information technology (IT), craft, and professional services. However, recently, there has been some evidence in the literature that there is a disproportionate share of women entrepreneurs in the creative industries. Such industries have been highlighted as one of the fastest growing sectors of the global economy and are defined as “those activities that have their origin in individual creativity, skill, and talent, and which have a potential for wealth and job creation” (Creative Clusters Ltd., 2002). While not exclusively, they include designer fashion, film, theatre and the performing arts, advertising, architecture, publishing, broadcast media, recorded music, and arts and crafts. In particular, women are operating, and indeed flourishing, in the film and media and fashion and design sectors, now heralded as the new glamour industries of the 21st century. To date, the extent of women’s participation in these particular industries, which also include broadcast media, publishing, and literature, has not been the subject of concerted academic research; however, their potential for growth is now widely recognized.

Women would also appear to be particularly well suited to the services sector in general, which, given the decline

in some economies of the manufacturing industry, opens up huge potential for development. Furthermore, the valuable role that women play in managing family businesses, either solely or in partnership with their spouses, has also been noted in the literature. Anecdotal evidence exists showing that women can successfully take over existing firms, turn around floundering businesses, and start seemingly small-scale ventures, which they successfully build up for onward sale in a relatively short time. Such opportunities for women entrepreneurs require further study as they offer considerable potential for economic development.

According to de Bruin, Brush, and Welter (2007), future research into women's entrepreneurship needs to include a review of the most appropriate unit of analysis (i.e., the entrepreneur, coentrepreneur, or the firm), consideration of women entrepreneurs in different contexts across different countries, a better understanding of the barriers to women's entrepreneurship, and due consideration of the different interest groups involved in the field (i.e., policymakers, entrepreneurs, academia, etc.).

In research terms, many questions still need to be investigated if we are to advance knowledge in the field of women's entrepreneurship. For example, according to Brush et al. (2006), there is a need to achieve a greater understanding of women entrepreneurs within and across regions, to develop models that account for country differences, and to reflect the extent to which the gender perceptions of certain institutions or societal groups affect the entrepreneurial dynamics. In addition, the fundamental issue of access to data, the different ways in which data are collected, and the different units of measurement that are applied to women's entrepreneurship all need to be aligned if robust research is to be conducted and the field is to continue to move forward.

SUMMARY

This chapter has considered the main themes currently under discussion within the field of women's entrepreneurship. It began by considering the underrepresentation of women in entrepreneurship globally and made the economic case for encouraging more women to become entrepreneurs. It is clear that, since women make up half the population, there is considerable economic value to encouraging them to participate in entrepreneurship so that a steady supply of entrepreneurs can be maintained.

The chapter then highlighted the definitional issues associated with the topic, illustrating how these can restrict the scope for robust comparative studies and impact on research findings. In this regard, it is recognized that self-employment figures do not always equate to levels of business ownership, and thus, total entrepreneurial activity (TEA) rates tend to be the most commonly used indicators of women's entrepreneurship, particularly where international comparisons are being drawn. The chapter drew on

the work of the Global Entrepreneurship Monitor (GEM) and the Diana Project to illustrate some trends in women's entrepreneurship internationally. While women entrepreneurs in different countries share similar characteristics and face similar difficulties, there are differences pertaining to country, economic, and cultural contexts.

The key characteristics of women entrepreneurs were then discussed, as were the key barriers to women's engagement in the entrepreneurial process. Here, the difficulties women encounter in accessing finance, and their different perceptions of growth were highlighted. The networking practices of women entrepreneurs were also seen to have an impact on access to finance and the growth potential of women-owned businesses. Finally, the chapter briefly reviewed existing policy and support for women's entrepreneurship. Although most countries have introduced a range of support initiatives to promote women's entrepreneurship, some countries, for example Ireland, still do not have a dedicated policy on women's entrepreneurship.

While, on an international level, scholarly interest in women's entrepreneurship has increased significantly in recent years, women entrepreneurs are still very much in the minority when compared to their male counterparts. For the most part, significantly more men than women participate in business ownership. The growing recognition of women's untapped entrepreneurial talent and the significant contribution they can make to the economy will help keep this topic on the agenda of academics and policymakers worldwide.

NOTES

1. The Diana research team is led by Professors Brush, Carter, Gatewood, Greene, and Hart in the United States and involves researchers from 16 countries worldwide. The team studies and compares the nature of women's entrepreneurship in different countries, with a particular focus on their growth and financial strategies.

2. Female self-employment as a proportion of total female employment (i.e., the rate of self-employment; as cited in Carter and Shaw 2006, p. 7).

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ENTREPRENEUR RESILIENCE

What Makes Entrepreneurs Start Another Business After Failure?

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We shall finally try to round off our picture of the entrepreneurship in the same manner in which we always, in science as well as in practical life, try to understand human behavior, viz. by analyzing the characteristic motives of his conduct. Any attempt to do this must of course meet with all those objections against the economist's intrusion into 'psychology' which have been made familiar by a long series of writers . . . There may be rational conduct even in the absence of rational motive. But as soon as we really wish to penetrate into motivation, the problem proves by no means simple. —*Joseph A. Schumpeter, 1883–1950*

The leaders I met, whatever walk of life they were from, whatever institutions they were presiding over, always referred back to the same failure—something that happened to them that was personally difficult, even traumatic, something that made them feel that desperate sense of hitting bottom—as something they thought was almost a necessity. It's as if at that moment the iron entered their soul; that moment created the resilience that leaders need. —*Warren G. Bennis, b. 1925*

This chapter will discuss the factors that lead some entrepreneurs to keep trying until they succeed in business rather than being deterred by earlier failure. Examples will be provided from Taiwanese entrepreneurs to illustrate concepts. Entrepreneurs are active dream makers and exploiters of opportunities in diverse areas including intrapreneurship, markets, and even social and political work. In the process of starting up new businesses, entrepreneurs explore business potential based on their visions of how the future will turn out, and how they expect their own business identities to form. In order to re-

alize value, entrepreneurs create new organizations, in turn adding competition for their industries. Their work often results in economic growth in the forms of an increase in jobs, an elevated technological horizon, and social wealth and renewal (Bednarzik, 2000; Drucker, 1985). While entrepreneurs invest with prosperous intentions, they also risk failure since entrepreneurship a demanding activity embedded in complicated contexts (Brockhaus, 1980; van Gelderen, Thurik, & Bosma, 2006). Therefore, many entrepreneurial organizations emerge and then disappear within a short, incomplete life cycle.

For a new enterprise to succeed, human capital performance can be key (Hayton, 2004). Moreover, it influences business viability and longevity (Bates, 1985, 1990). To a large extent, the success or failure of a venture depends on the entrepreneur, and he or she expects some reward due to his or her willingness to undertake risk (Cunningham & Lischeron, 1991). An entrepreneur must deal with the scrutiny of financial institutions through the process of soliciting capital and feedback. Pressure, which may result in positive consequences (constructive pressure) or negative consequences, may accompany the expected returns from the entrepreneurial process. The soundness of an entrepreneur's plan and his or her marshalling of the capabilities and resources needed to make the venture a success are reflected in the assessment of financial institutions and their willingness to fund the venture.

A "resilient mind-set" (Brooks & Goldstein, 2003), whether in terms of social life or organizational life, is an especially strong driver for entrepreneurs when facing business failure, sometimes serially. It also enables the expression of originality. Thus, an entrepreneur's willingness and ability to recover from and respond to the challenges involved in the construction of a venture may not merely indicate a propensity for seeking new business opportunities but may also serve as an antecedent for predicting new business success. According to Aldrich (1999), over 50% of new ventures are terminated quickly after they are developed. Hence it is important to study the postfailure dynamics of entrepreneurs. Entrepreneur resilience could be defined as the inclination by which entrepreneurs reengage in entrepreneurship after venture failure(s). In such periods, the entrepreneur strives to adapt toward a healthier mindset and sounder capability, while facing the adversity, trauma, tragedy, threats, or other sources of stress from the failure(s) (Envick, 2004; Smokowski, Reynolds, & Bezruczko, 1999).

Entrepreneurial studies have been performed in the context of several schools of thought, such as Great Man, Psychological Characteristics, Classical (Innovation), Management, Leadership, and Intrapreneurship (Cunningham & Lischeron, 1991). Beyond attributing individual resilience to intrinsic factors including personality, courage, and others from the intuitive psychology discipline (e.g., Bonanno, 2004), the discussion of entrepreneurial resilience should be extended to attribute individual resilience to motives and capabilities which rely on the concrete managerial abilities and social contexts offering entrepreneurs the foundations for resilience. While personal traits of entrepreneurs have become instrumental for explaining entrepreneurial activities, other factors also hold influence. The imperatives for personal and organizational value creation in a modern economy have been slighted and are in need of further study. Surprisingly, the issues concerning entrepreneur resilience have received little research attention.

Accordingly, this chapter prepares to uncover some of the influencing factors that motivate and support entrepreneurs' return to venture excellence after venture failure(s).

In this chapter, first we review the literature concerning entrepreneur resilience. Next, we explore the influencing factors for entrepreneurs' resilience using a multilevel framework that considers current knowledge and social aspects of entrepreneurs' lives. To clarify the framework, woven throughout the discourse are illustrative cases that offer the reader a vivid experience through stories. Finally, concluding remarks are offered, leading to implications and possible future research directions.

ENTREPRENEUR RESILIENCE

Resilience theory originated from pressure adjustment in psychotherapy. The theory explores how individuals deal with crises, and how crises may enhance an individual's ability (Rak & Patterson, 1996). Each person has an innate ability to rebound, but this certainly does not mean a person will not experience difficulties or feel depressed when facing a rebound experience (APA, 2002). Resilience should not be understood as overcoming difficulties easily or not suffering from crises. The focus should not rest solely on the "bounce back," but also on an individual's struggle in difficult situations and the courage that an individual shows in such a struggle with adversity (Bonanno, 2004). In fact, any one resilience theory or model is not applicable in all circumstances; rather, resilience depends on the interaction between the individual and environment (Rutter, 1993).

Generally, resilience is a power or an energy that determines how people overcome great adversity, stress, or unexpected results of human actions (Brooks & Goldstein, 2003). Different scholars have different points of view on resilience, primarily about whether it is internally or externally mechanized. Scholars from the "inner protection mechanism" viewpoint advocate that individual characteristics such as hardiness, optimism, good interpersonal relationships, and self-reinforcement can reduce the influence of any crisis (Garmezy, 1985). These characteristics can reduce misbehavior (Smokowski, Reynolds, & Bezruczko, 1999), increase successful adjustment (Benard, 1996; Sagor, 1996), enhance the skills for dealing with crises, and develop the ability to solve problems.

Scholars of the "external protection mechanism" viewpoint believe that resilience is how an individual learns to achieve a goal through interaction with the environment; the individual adjusts the environment to avoid collapse (Holaday & McPhearson, 1997). Still other scholars believe that resilience should be discussed based on its eventual results. From this point of view, resilience refers to the ability to overcome difficulties and perform better than expected (Richardson, 2002). During the process of struggling with adversity and overcoming difficulties, an individual may obtain more resources necessary for success and further develop the ability to bounce back. Over time, a person with a comparative lack of resilience will likely develop greater overall resilience than a person who initially possessed more resilience. Therefore the person with the initially

lesser level of resilience will obtain greater benefits from adverse experiences.

In recent years, researchers in business administration have been studying resilience after business failure as different from other general trauma experienced in life. Researchers are trying to explain why some entrepreneurs are able to overcome obstacles after a setback while others are unable to recover. Most entrepreneurs dedicate themselves to their businesses. The failure of their enterprises could lead to them losing their property and social status. Not all entrepreneurs are optimistic and have the courage to manage crisis; they have negative feelings (Coutu, 2002) such as helplessness, distrust, and defensiveness, and they exhibit irrational behaviors (Kets de Vries, 1985). Little study has been conducted on how entrepreneurs recover after setbacks.

We define resilience as the process of an entrepreneur's recovery from a setback, and subsequent reinstatement. In such a process, entrepreneurs develop their managerial skills and learn techniques to reduce the risk of further setbacks, thereby increasing their chances of success (or at least to decrease their chances of failing again) *in the future*. The purpose of studying resilience is not limited to understanding entrepreneurs' ambitions and motivations to bounce back successfully, but also to explore how they rebuild their enterprises.

MULTILEVEL INFLUENTIAL FACTORS FOR ENTREPRENEUR RESILIENCE

An entrepreneur, noted Ryans (1997), is one who "combines the conversion of ideas into a viable business through ingenuity, hard work, resilience, imagination, [and] luck" (p. 95). As Shapero (1981) noted, entrepreneurs play an important role in a buoyant economic environment because of their self-renewal capacity. For entrepreneurs to operate, they must do so in a uniquely complex environment, which can be seen as a nested, multilevel system of innovation. On the one hand, a resilient entrepreneurial environment needs resilient entrepreneurs who take initiative for individual and collective goals. On the other hand, such an environment involves many factors which influence each entrepreneur's level of resilience. In other words, entrepreneurial surroundings not only depend on potential entrepreneurs, but also nurture entrepreneurs' potentials (Krueger & Brazeal, 1994).

In the following, we comprehensively review the potential antecedents for an entrepreneur's resilience. Furthermore, we examine whether these antecedents serve as drivers and/or impediments, with positive and/or negative influences. Table 7.1 presents a summary of the factors which will be discussed in this chapter. Within the chapter, a subheading for each antecedent is shown with a positive and/or negative sign indicating our preliminary opinion as

Table 7.1 A Summary of the Antecedents for Entrepreneur's Resilience

<i>Level</i>	<i>Antecedents for Entrepreneur's Resilience</i>
<i>Intraentrepreneur</i>	Self-efficacy (+) Creative intelligence (+) Autonomous learning (+) Social orientation (+) Social-identity for oneself (+/-) Social skills (+)
<i>Interpersonal</i>	Entrepreneurial team diversity (+/-) Knowledge acquisition (+) Expectations/pressure from important others (+/-) Entrepreneurial team morale/goal consistency (+) Mentorship (+)
<i>Organizational / Industrial / Institution & Policy</i>	Internal operation and management capacity (+) Industrial practices for entrepreneurial activities (+/-) Relationship with resource supportive organizations (e.g. banks, technology supply) (+) Guanxi with governmental or nonprofit organizations (+) Norm for entrepreneurial activities (+/-)

to which direction(s) of influence each antecedent has on entrepreneur resilience. Future studies are encouraged to examine the proposed influences more extensively, particularly the posited directions of influence, based on deductive or inductive approaches for theory building.

In order to offer cohesive associations between theoretical articulations and authentic experiences, illustrative examples are incorporated in our chapter. Some examples were extracted from interviews conducted by one of the authors. Others were drawn from secondary resources, including newspapers and business magazines containing entrepreneurial narratives or stories (e.g., *Business Weekly*, *Common Wealth Magazine*, etc.) The illustrative cases concern well-known entrepreneurs in the greater China region. Table 7.2 outlines biographical information about these (resilient) entrepreneurs. Since the primary intent of this chapter is to explore theoretical constructs for future studies to consider, our approach is scientifically grounded on entrepreneurs' lives; after all, business itself is an entrepreneur's life (Yin, 1994). In the lives of our example entrepreneurs, respective businesses are the major themes. By using this conceptualized knowledge approach, researchers, students, and practitioners who are generally interested in this topic will also benefit.

Table 7.2 Illustrative Cases: Basic Information

Name	Mr. Lee	Mr. Wu	Mr. Chang	Mr. Yang	Mr. Wu*	Mr. Hsu
Sources	Secondary Data	Secondary Data	Secondary Data	Secondary Data	Interview and Secondary Data	Interview and Secondary Data
Prior identification	The president of Ten Ren Stock Exchange Company which is the top 1 tea chain store in Taiwan	Founder of Wu Industries Co., Ltd. Which is top 500 company in Taiwan	1. Founder of Guo-Sen entertainment company 2. Founder of Whale International Co., Ltd.	1. The founder partner and Sale manager of Sun Rex Technology Co., Ltd. (Public offering companies) 2. Founder of Formosa International Development corp.	1. Founder of Plastic Industries Corp. 2. Founder of King-Tien Restaurant	1. Cooker 2. Founder of sea food store 3. Founder of fast foodery store
Up-turn firm	Ten-Fu Tea Group in China	Pih-Siang Machinery MFG Co., Ltd.	K-Land Technology Entertainment Co., Ltd.	104 Manpower Co., Ltd.	Super Dragon Technology Co., Ltd.	QQ Food Corporate
Resilience Date	1993	1983	1999	1996	1987	2000
Scale and Scope	Up to 470 chain stores worldwide for Chinese Tea and related products. (Public offering companies)	Top 2 Motorcar and Scooter designer and manufacturer (Public offering companies)	Creator for a famous internet motion picture character—A Kuei	Primary human resource job bank and internet platform for job referrals. (Public offering companies)	Largest green and antipollution recycling company. (Public offering companies)	Largest fast-order food chain store in Northern Taiwan

Intraentrepreneur Level

Self-Efficacy (+)

When people think they can handle complex challenges well, they are not only more capable of accomplishments, but they are also more self-confident (Bandura, 1977, 1997). According to Bandura (1986), “self-efficacy” refers to a judgment of oneself in terms of an ability to realize perceived resources and controls. In particular, this realization is judged when a person has to conduct a series of actions to complete some specific goal. Increased goal clarity is also closely related to high self-efficacy (Erikson, 2002). If an entrepreneur realizes that he or she possesses a certain degree of resources and knowledge which can help fulfill the planned objective, his or her motivation is higher and he or she is more likely to be motivated by the thought of reentry into building a new business. As Wu* (personal communication) said in an interview,

I was depressed at that time. I am professional and I know how to make four or five hundred out of a hundred. I had to give my company to Super Dragon. I know I had to endure. I have to treat that as tutoring and an opportunity to learn their refining technology. I must have to run my business day-to-day.”

Wu* started a recycling business, but he had to deal with environmental protection legal problems between Japan and Taiwan. The situation strengthened his resolve to start a refining recycling business by himself.

Creative Intelligence (+)

The business environment is changing rapidly, so the ability to think creatively has become important in management settings (Sternberg, 2003). Entrepreneurs shatter the status quo through new combinations of resources and new methods of commerce (Holt, 1992). Creativity is an ability to bring something new into existence; this definition emphasizes

the ability of an individual to generate fresh variations rather than the actual generation of such results (Amabile, Conti, Coon, Lazenby, & Herron, 1996). Accordingly, entrepreneurs with creative intelligence refer to their insights and use their abilities to uniquely react to novel situations and stimuli (Sternberg, 1985).

Highly creative individuals often apply existing knowledge to new problems, moving from conventional learning to new learning in a different situation. In such ways they can originate cognitive shifts (Sternberg, 2003). Through this process, entrepreneurs invest in ideas that often have latent growth potential but are otherwise currently unknown, unpopular, or perceived to be of low value. Entrepreneurs renovate prospective ideas and sell them to whoever is able to afford paying for the higher value of novelty; this is known as the “renowned investment theory of creativity” (Sternberg & Lubart, 1995). Moreover, persistence, curiosity, energy, and honesty are important properties of creativity and each is fueled by intrinsic motivations (Amabile, 1988). Positive evaluation has a positive effect on self-efficacy and as a result enhances the creativity of a performance. Furthermore, the choices involved in how to perform a task can enhance a person’s intrinsic interest and creativity.

Entrepreneurs with creative intelligence are capable of analyzing the relevant aspects of the situation without being distracted by the irrelevant aspects. Thus, a person’s disposition toward intellectual transformation is a general cognitive style dimension and, accordingly, both domain-specific skills and creativity-specific skills are imperative to creativity (Amabile 1988). A famous story of bouncing back by utilizing personal creativity is that of a famous Web animation producer named Chang.

Chang designed a comic character “A-Kuei” based on his childhood. The success of A-Kuei skyrocketed his professional career as a director. A-Kuei soon became very popular throughout the Internet (Jn, 2000).

When Chang was in the nadir of his career, he saw an opportunity to creatively use his expertise and intelligence to reverse his situation. Another story from a Medical Motor merchant, Wu, illustrates this:

Wu loved the sensations of nature ever since he was little. When he was in elementary school he was curious about how birds and dragonflies could fly. He used wood, cans, and steel wire to make toy cars. He made a radio and sold it to a friend when he was fourteen. After that, he studied at Pingtung Institute where he continued to love investigating all kinds of equipment. He built a motorcycle and then used it to make a living (Public TV, 2004).

Leaders bring their creative thinking skills into the practice of idea generation using feedback from followers. Unsurprisingly, rewards are necessary for better creativity performance (Sternberg, 2003). Successful entrepreneurs are willing to bear the risks of investing in creativity, making decisions under uncertainty, and redefine problems in uncommon ways. This means entrepreneurs “buy low and sell high” in terms of investing in creativity provisions that may well propel the venture into superior returns.

Autonomous Learning (+)

Some researchers argue that previous experience and prior learning have not just positive but also negative effects on creativity (e.g., Stein, 1991). Previous experience or knowledge may lead to a functional silo mentality that prevents individuals from producing creative solutions. Yet nothing can be made of nothing. Entrepreneurs need to introduce variation, such as trying various combinations to acquire new knowledge of what works and what does not (Campbell, 1960).

Learning is a way for both individuals and organizations to update their respective portfolios of capabilities. This is especially important for entrepreneurs. Entrepreneurial learning, especially double-loop learning (Sullivan, 2000), is critical for entrepreneurial development; it is essential when correcting weaknesses and dealing with failures (Politis, 2005).

Wu would buy products from a company which was closing down and find out why the company was going out of business. “I would analyze the products and its sales systems so as not to make the same mistakes. Besides, safety is very important for a Scooter, so I have to pay great attention to that,” Wu said in a TV interview (Public TV, 2004).

In this vein, a person employing self-activated learning is able to reorganize existing knowledge materials and to integrate them into meaningful memories according to changing conditions or dynamic events. Argyris and Schön (1978) argue that such learning is a process of detecting and correcting errors. For entrepreneurs, reflection serves not only to identify facts, but also to instill findings and observations into future business blueprints. These two entrepreneurs’ narrations demonstrate this point:

Hsu is continuing to take all kinds of training courses to strengthen his abilities. “I didn’t read much before, but in order to manage the company, I am taking courses in management, interpersonal relationships, and communication skills,” Hsu (personal communication) said in the interview.

Wu* endured unfair charges for about three or four years from the Japanese, while keeping good relationships with them, so that he could learn the techniques from them. Wu* also learned techniques from Americans and Europeans. He imported equipment from Germany and Japan to build his own gold-refining techniques. “I still think that I have to do the recycling and refining business by myself; that is the value. Why do I have to bear high charges? It’s unreasonable. I am forced to handle things myself,” Wu* (personal communication) said in his interview. Therefore, he started to work with the Technology Institute to build his own system.

Social Orientation (+)

Social motives are related to a certain degree with actual behavior (Liebrand & Godfried, 1985). A high degree of social orientation means that a person is active, externally

searching, nonexploitive, and participative when taking initiative or planning a series of actions. Diekmann and Lindenberg (2001) suggest that individuals are differentiated according to their orientation toward others. This orientation is often assumed to be more or less stable and the joint result of nature and nurturing. Different types of orientation exist with the following three most frequently identified: “cooperative” (the goal is to maximize joint payoffs), “individualistic” (the goal is to maximize individual payoffs), and “competitive” (the goal is to maximize the positive difference between one’s payoff and another’s). All of these orientations suggest an intuition to do something beneficial in the future. Wu* (personal communication) expressed in the interview,

I communicated several times with my partner when I knew he was not disclosing recycling techniques. At that time, I deeply knew I could not carry on any longer. So I consulted with a professional to gain an understanding of the hardware recycling process and techniques, and made up my mind to persevere and do the recycling business.

Among the three most commonly noted intuitions, a cooperative orientation with the outer social world is most beneficial for initiatives that need intricate coordination of diverse inputs. As such, people with prosocial attitudes regarding ideas or idea achievement are more willing to establish a way of doing business, thereby transforming ideas into practice.

Social Identity for Oneself (+/-)

An entrepreneur’s reputation and image influence how constituents perceive the entrepreneur’s legitimacy and trustworthiness (Ostgaard & Birley, 1996; Starr & MacMillan, 1990). From the entrepreneur’s own perspective, self-identity, or viewing oneself as an important ego in society, is also an important factor that stimulates one’s motives toward doing something “more,” not only for personal success but also to make a contribution to the larger social or business fields. Goldsmith, Veum, and Darity (1997) indicate that this psychological stimulus could influence a person’s productivity after experiencing difficulties. When entrepreneurs have a sense of responsibility, they think they should do something self-fulfilling as a piece of the greater whole.

Yang founded a computer company with friends in 1992. He worked as deputy general manager. The sales were increasing, but Yang was beginning to question the value of his work. Besides that, Yang and his partner could not agree about product quality; he decided to leave the company in 1993. Yang had to face the challenge of losing his job at the age of 34 (Yang, 2002).

Yang started to think about the value of his life, and what he could do for society. He wanted to invent something that could benefit society, such as a chemical sensor or microwave detector, but he gave up after preliminary research.

Yang argued that in Taiwan people do not have enough space to do what they would like to do. Job descriptions are fixed and not negotiable. He proposed a more flexible employment plan to help people find jobs they like. Yang said that he is not working for money but for self-fulfillment. “I want to spend my time and effort on things that are worthwhile to do. This enables me to transcend myself and muster courage and persevere,” Yang said in a media interview (Tang, 2004).

Social Skills (+)

Social skills enable entrepreneurs to induce cooperation from others in order to produce, contest, or reproduce a given set of rules (Fligstein, 1990). Likewise, when identifying opportunities for strategic initiatives, social skills aid entrepreneurs getting buy-in and effort to move on those initiatives from others. Replete with irrational actors, business requires particular attention to mobilizing personnel creatively rather than merely manipulating financial incentives (Hung, 2002).

Wu* aggressively reduced the technological capability gap with the people he knew. “He has his way, such as to get help from the Japanese and Germans,” said Mr. Lin (personal communication), Wu*’s executive assistant manager.

As these cases imply, many entrepreneurs are not initially properly teched-up. Those who are good at social or interpersonal negotiations may find that this skill assists them in surmounting any deficits in their business foundation. When this is the case, the probability increases that an entrepreneur feels more intent and possesses more ability to restart his business.

Interpersonal Level

Entrepreneurial Team Diversity (+/-)

Teams are now seen as one of the best designs for task units to survive and succeed in the modern business world. A team can achieve the flexibility and efficiency necessary while retaining the functionality required for performing organizational and knowledge-oriented tasks (Lagerstrom & Andersson, 2003). Indeed, value-creating imperatives like entrepreneurial activities are especially knowledge and innovation oriented. Heterogeneous teams can gain access to differentiated knowledge and resources and thus enrich the team’s knowledge base regarding entrepreneurial work. Having somewhat diverse entrepreneurial teams enhances each team member’s motivation and capability for facing future challenges. While the previously mentioned Flash Web-movie producer Chang utilizes his intelligence, he still needs a good group to support his creativity.

K-land emphasizes a platform for innovation management, not just the CEO’s [the founder entrepreneur’s] individual creativity.

I encourage my employees to develop a style of their own; I told them not to copy from others. Trying things differently! You have to be yourself to earn respect and have your own style be recognized. We create a business for the dreamer. (Yang 2002)

Nevertheless, just as Tsai (2005) demonstrated, team diversity affects a team's knowledge-work outcomes. Reagans and Zuckerman (2001) argue that while diverse knowledge and wide access to resources can enable multiple and nonredundant idea generation, a diverse set of sources may also result in communicative and decisional inconsistencies and conflicts. Ultimately, diversity and similarity should be balanced on an entrepreneur's team.

Knowledge Acquisition (+)

Often entrepreneurial knowledge is tacit (that is, unconscious). Therefore, effective knowledge acquisition often must be obtained through frequent interpersonal interactions (Nonaka, 1994; Yli-Renko, Autio, & Sapienza, 2001; Zahra, Kuratko, & Jennings, 1999).

At one time, Hsu faced a business obstacle.

I hesitated for about four months, during which time I discussed my ideas with friends, then I decided to open a new type of store. I had some new ideas then Taking account of my capabilities, I decided to initiate a buffet in Taipei Country. I always enjoyed looking for new locations. (Hsu, personal communication)

Hsu found that he learned a lot from his friends in a social network.

Several members of the Chain Store Association, including myself, formed a club. We invited experts and entrepreneurs to give speeches and training courses for sharing market information and professional management skills which strengthen our operating capabilities. (Hsu, personal communication)

Tacit knowledge is often valuable and yet hard to transfer (Szulanski, 1996). Those who manage to gain access to such knowledge may outperform others in innovation speed as well as distinctiveness in expertise. As a result, more knowledge sharing or knowledge acquisition enhances motivation and capability for entrepreneurs when they consider building a business after a prior failure.

When Wu* decided to start his own business, his friends in the chemical industry and those with prior restaurant business experience provided him with some valuable information.

Expectations/Pressure From Important Others (+/-)

People continuously imagine what is in other people's minds, especially regarding what others think of their progress. When people feel that there is considerable distance

between "what other people expect them to do" and "what they are doing currently," they may consider filling the gap. For example, if an entrepreneur thinks that others perceive him as one who seldom fails in business, the entrepreneur would seek to quickly change by filling the gap, thereby positioning himself as one who never fails—indeed, one who even abhors the possibility of failure. In this example, said entrepreneur changes his own behavior, and current state, to fit others' expectations.

Expectations from others, especially from important others (e.g., family, close friends, business partners), have continual impact on individual decisions and actions. As people plan their careers, they decide what they should do using social desirability as a frame of reference (Ellingson, Smith, & Sackett, 2001). For resilient entrepreneurs, such a decision may be heavily influenced by others' expectations (or pressure). Others' expectations highly influence an entrepreneur's motivation to come back (or not) and his subsequent approach to building another business. Furthermore, a vote of confidence from an important other often results in self-actuated behaviors and outward signals. The former stock market exchange-company tycoon, now the most famous tea business owner in the greater China area, Lee, experienced such a process.

Lee sold his property and stocks when the crisis happened to remedy the financial deficit and investors' losses. He also resigned from the company, walking away from his responsibility. After two years, Lee decided to seek financial support from his friends and start a new business in China. But many of his friends were unable to help him financially. Besides, his family thought that it was too risky to do business in China and did not support his decision. "It's quite different than before and hard to fund (Tsai, 2002).

Entrepreneurial Team Morale/Goal Consistency (+)

In a study investigating the conflict between a venture capitalist and an entrepreneurial team, Higashide and Billey (2002) showed that while conflict and disagreement can be beneficial for venture performance, conflict based on personal friction is negatively associated with performance. The impact is generally stronger for conflicts related to organizational goals than those related to policy decisions. Especially in early stages of a business, goals of consistency and interpersonal solidarity are important. Inconsistency may lead to negative consequences. For instance, an idea champion (often the entrepreneur) may try to convince the team to achieve a "preferred" agreement. Once team members support the entrepreneur's proposed blueprint for a new business and when the strategic direction is clearly set, actions to accomplish the objective are more likely to be performed and the business will be running better than would otherwise be feasible.

His export business did not go well; therefore, Lee decided to do domestic trading. His employees were against this decision. They were afraid that his company could not

compete with others. Lee believed that his company could beat others with better quality and service. Finally, Lee transferred the Taiwanese Ten-REN Chain store system to the China market for domestic market development (Tsai, 2002).

There may still be other situations where communication and coordination between the entrepreneurial team members proves ineffective. One of our illustrative cases indicates that cooperative partners sometimes consider terminating either a planned venture or a partnership to establish a business on their own, thus sidestepping the potential costs of coordination and conflict associated with shared management. In this way, inherently limited energy and resources might contribute more efficiently to core business activities.

After a time of cooperation, Wu* had problems with his partner. "He had an attitude problem. He always woke up at 3 o'clock in the morning to refine gold and kept the technology a secret," Wu* (personal communication) explained. The communication between Wu* and his partner was ineffective and they were not able to work together anymore. Therefore, Wu* decided to end the business with his partner and started a new business of his own.

Mentorship (+)

Often a mentor plays a role not only as a teacher but also as a conduit for resource access. Knowledge regarding entrepreneurial activities, unknown channels for approaching opportunities and constituents, and even concrete financial support may be transferred from the mentor to the entrepreneur in a structured or semistructured way. One case source demonstrates this clearly:

Hsu received help from several friends who acted as mentors. They influenced Hsu's attitudes about life and his business viewpoint.

I always have to express my appreciation to three people for giving me social resources. One is my brother, who runs a breakfast shop and helped my whole family to not starve when I was mired in business failure. He also taught me the concept of [stop-loss bottom-line]. Another is a CEO of a famous breakfast restaurant chain, who imparted his business experience to me. That improved my management skills. The last is the most important person to me. He is the CEO of Architecture Company. I was his first apprentice. He taught me how to build and preserve human relationships and management systems, and how to treat my employees. I always accepted his suggestions and applied them to my business and life. (Hsu, personal communication)

As we can see, Hsu gained something more than simple knowledge from his mentors.

A mentor's guidance can be a rich knowledge environment nurturing an entrepreneur's progress. Valuable knowledge gained from an entrepreneurial mentor facilitates the effectiveness of what Politis (2005) calls the three processes

of learning. First is the entrepreneur's own career experience, and next is the entrepreneurial transformation process. Third is entrepreneurial effectiveness in using knowledge to recognize and act on entrepreneurial opportunities. Entrepreneurial effectiveness also includes being able to cope with the liabilities of newness. With this sort of assistance, entrepreneurs can feel more confident and knowledgeable when restarting a new business since the mentor provides an accessible role model while the entrepreneur is pursuing business excellence.

Organizational/Industrial/ Institution and Policy Level

Internal Operation and Management Capacity (+)

Wu was once betrayed by a close friend and that betrayal caused his business to go bankrupt. Therefore, he does not recruit friends or relatives.

That was a painful lesson; I learned that a good management system is important to a company, no matter how excellent your business and R&D capabilities. Thus, I have been improving the management system since I started the company. I have to establish perfectly integrated management rules. (Public TV, 2004)

A resilient entrepreneur has to address more than just motives. Rather, management capacity is highly related to how resilient motives can be directed into long-lasting growth and performance. When an entrepreneur is considering the possibility of committing himself to a new business, he needs the drive to promote innovation and the capability to accept personal responsibility. Having these allows for the creation of a venture which is able to achieve a high level of performance. Since a business needs to be well founded, coordinated, and controlled, managerial regulations and capabilities become critical from the bottom levels of a company to its top strategic levels (Jones, 2000). After all, a state of idle management capacity can have tremendous negative influence on the feasibility of entrepreneurial innovations and the business' potential for growth (Penrose, 1959). This is clearly exemplified in the following case:

"Running Yusun the tea plantation was more difficult than I imagined. The hygiene and equipment were inadequate enough. Besides, the alkalinescence of the soil was unsuitable for growing tea." To improve the chance for his bounce-back for shop production in China, Lee spent a lot of money to upgrade the equipment, and found experts and tea farmers who came from Taiwan to teach his employees how to cultivate and grow tea (Tsai, 2002).

Through training, Lee changed the employees' attitudes toward working. His employees were asked to wear uniforms and live in the dorm. To provide better service, his employees also had to learn how to drink tea so they could teach customers tea-tasting skills, thus changing the ways of tea store promotion in the chain (Tsai, 2002).

Industrial Practices for Entrepreneurial Activities (+/-)

Most individuals have some knowledge that is not easily transferable to others in any specific time and place. Examples of such tacit knowledge may include the ability to recognize certain patterns in market behavior, subtle differences in the quality of goods, or ways to identify whether resources are being used efficiently (Holcombe, 2003). This indicates that one may apply the same approach in doing business as another but have differing perceptions of the utility of that approach. Still, the one who is trying to search for and identify new business opportunities observes the existing approach very carefully. The best practice of a new business is to demonstrate its ability to follow a proven model of business. When an entrepreneur finds that his business is stabilized at a particular level, he may wonder whether it is possible to reach a higher level of success, perhaps becoming the benchmark of best practice in his industry.

Another possibility is that an entrepreneur considers current practices in an existing market to be lacking and might become motivated to find a better approach and create a new business to implement it, perhaps garnering a higher rate of return than others. We can see an example in the following:

Wu was a supplier to the medical care industry. He noticed that three-wheeled vehicles for use in medical care applications had drawbacks that a four-wheeled model might overcome. Also, he noticed that automobile firms seemed disinterested in upgrading such vehicles. He felt confident that he might create a product better aligning with the healthcare industry's requirements.

Relationship With Resource-Supportive Organizations (+) (e.g., Banks, Technology Supply)

A firm's unique value and competitiveness may reside in its relationships with other organizations (Dyer & Singh, 1998). Resources from the firms in an organization's network might be included in the estimation of its competitive advantages (Lavie, 2006). In an entrepreneurial context, external relationships with other firms can importantly affect key entrepreneurial activities such as venture formation and financing (e.g., Larson & Starr, 1993). For entrepreneurs, building business relationships and having a network of other constituents in the business environment is a common practice. This argument is especially applicable for the entrepreneurial community and organizations in an economy of network constellations (Nijkamp, 2003).

Birley (1985) clarified the different networks entrepreneurs have relationships with and separated them into formal and informal ones. Resource access is one factor used to distinguish the formal from the informal networks. Linkages to resource-supportive organizations, such as banks, technology firms, prior or potential suppliers, and research institutes, can help entrepreneurs gain access to the resources they need to run their businesses (Birley, 1985;

Gulati, Nohria, & Zaheer, 2000). This is essential because according to Baum, Calabrese, and Silverman (2000) entrepreneurial firms are commonly lacking more resources than established firms. Therefore, if an entrepreneur has functioning relationships with others who are in possession of resources, he may have better chances and more ability to mobilize those indirect resources.

Wu was working hard to produce a good product. When his company's capital was increased, Chung-Hung Motors became a major stockholder. Chung-Hung Motors was known for its effective management system. Besides the capital, Chung-Hung Motors also brought an effective management system to Wu's company (Public TV, 2004).

Even if an entrepreneur has failed in a business start-up, he or she may find their courage and confidence in developing a new business plan bolstered by a large pool of potential resources to use. Creating and maintaining relationships with organizations that might supply such resources is a critical manoeuvre for an entrepreneur. In the past close proximity was more important in maintaining relationships with stakeholders than it is currently (Nijkamp, 2003).

Relationship With Governmental or Nonprofit Organizations (+)

In many nations, it is helpful for an entrepreneurship to establish good relationships with government units that it must work with. Though, in an epoch of deregulation, this is less important than in the past (Henisz & Zelner, 2005).

Lee successfully got his tea to be *the* official souvenir of Asia Pacific Economic Cooperation (APEC) meeting in 1997, and he also established relationships with top officials. After 4 years, Lee aggressively used his official relationships to promote Ten-Zen tea to be the souvenir again at the APEC meeting. This cost Lee a million, but the commercial benefit for him was certainly more than that (Tsai, 2002).

Norm for Entrepreneurial Activities (+/-)

The framing force for social action does not necessarily stem solely from social aspects, institutional aspects may also have a part to play. Many studies, when dealing with the issue of collectivity, do not neglect the importance of collective norms for supporting collective action (e.g., Coleman, 1988, 1990; Nahapiet & Ghoshal, 1998). The norms of doing business in a specific industry or market can also be seen as the conventions or the "rules of the game." Although, as discussed above, on occasion entrepreneurial opportunities are associated with creating a higher level of competition through product upgrading, and so on, the norm for entrepreneurs is more focused on surviving competition rather than becoming the top firm.

After having failed at a venture, entrepreneurs mulling over starting a new venture will consider the difficulties that might entail. If they see it as being complex to start-up a particular business, their enthusiasm for it might flag.

Conversely, it might seem generally readily doable. Even when a start-up might seem difficult, the lure of an attractive expected payoff might bring an entrepreneur to start a new business. This illustrative story says much the same:

In the case of the idea of building a new healthcare vehicle, though there were impediments such as the need to pass safety tests, the product was seen as ultimately a potential boon to the firm.

CONCLUDING REMARKS AND RESEARCH DIRECTIONS

This chapter discussed entrepreneurial resilience after previous failed ventures.

Successful businessmen and businesswomen are often endowed with vibrant lives and rich business experiences; some degree of failure along the way is not a surprise. In such situations, failure can be seen as valuable, as an intangible asset, for entrepreneurs' ongoing careers. If they learn from their failures (Shepherd, 2003), internalize the experiences, and raise their heads toward a promising future using proper resilience strategies and actions, entrepreneurial failure can hardly be seen as a liability.

Beyond the social, knowledge, or institutional bases for resilience proposed in this chapter, specific resilience strategies that can transform resilience motives into practice are imperative. Post failure, entrepreneurs are encouraged to reflect on their strategic resources and capabilities in addition to their emotional reactions. Identifying social capital and knowledge is a starting point because each benefits firm value creation and competitive advantage (Adler & Kwon, 2002; Tsai & Ghoshal, 1998; Spender, 1996; Grant, 1996). Moreover, discovering the mechanisms by which social and knowledge resources and capabilities evolve into concrete payoffs can be important. For example, trust or trustworthiness (Hardin 2002) may be an important transforming mechanism for all sorts of social relations maintained by entrepreneurs.

The most realistic and important assets for an entrepreneur may be their motives for and capability of resilience—the desire and ability to bounce back from failure, to turn a bad situation into a good one, and to profit from mistakes. While crisis is a challenging test for an entrepreneur's career, resilience is vital for continuous business operation, innovation, and success. According to these exploratory findings, building effective social relations and reliable knowledge sources may be the most critical imperative for noteworthy entrepreneurship. Moreover, research may extend to discovering how these two sources of advantage interact (e.g., Yli-Renko et al., 2001) to influence resilience or other entrepreneurial consequences.

Aside from exploring the antecedents as research variables pertaining to an entrepreneur's personal resilience in business, there are several other issues which deserve further research. First, the essence of entrepreneurial resilience should be discussed in depth. Although in this paper we

have discussed the “what” of this construct, we simply offered conceptual definitions while foregoing the possibility of deeming resilience as a multidimensional construct (Law, Wong, & Mobley, 1998). For instance, the concept of entrepreneur resilience could, as is commonly seen in the social sciences, be split into the motive and capacity portions. That is, we may distinguish between those who *intend to* come back after failure and those who may not *actually be able to* do so. Moreover, an operationalization effort should be conducted to allow for larger scale examinations.

Second, context-specific entrepreneurial resilience theories and practice techniques should be explored. If we agree that complexity is a basic foundation for modern business, the need for various kinds of models to explain resilience for entrepreneurs operating in different businesses, cultures, or institutional environments becomes evident. If we consider technological entrepreneurs (e.g., Astebro, 2004) and social entrepreneurs (Mair & Marti, 2006), for example, we see that they run their *businesses* in drastically different operating systems, and therefore should have different portfolios of factors affecting their resilience.

Third, the consequences of resilience may prove to be an interesting issue. The word “resilience” typically implies positive measurable performance (e.g., economic returns or profit). However, in management research consequences are oftentimes related to positive and negative outcomes or performance. Psychological results such as satisfaction and fulfilling personal philosophy may play roles. Further, competence results such as opportunity recognition or alertness (Baron, 2006; Kirzner, 1979, 1999; Gaglio & Katz, 2001), or the ability to dominate some industrial standard, as well as changes in strategic directions (e.g., to form an alliance or not; going forward with a public offering or not, etc.), are additional directions for possible future research.

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STRATEGIC PLANNING IN NEW VENTURES AND YOUNG SMEs

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This chapter of the *Handbook of 21st Century Management* deals with the use of strategic planning in new ventures and young small- and medium-sized enterprises (SMEs). It provides interesting insights into the topics of small business management and entrepreneurship and it particularly investigates characteristics of SMEs, the nature of strategic planning, the role of the entrepreneur in strategic processes, the elements of strategic planning in new ventures and young SMEs, and the benefits of and reasons against the application of strategic planning.

THE NEED FOR STRATEGIC PLANNING

SMEs continue to play an increasingly important role in major economies around the globe. They employ more than half of all private-sector employees in the United States, are responsible for half of the gross domestic product (GDP), and generate between 60% and 80% of net new jobs per year. According to most definitions, small enterprises are firms that employ fewer than 100 employees, whereas medium-sized enterprises may employ up to 500 employees. Especially new business ventures, which are virtually always a subgroup of SMEs, have been a popular topic of academic research since Birch (1979) found that small firms create more new jobs than large firms.

Because SMEs are increasingly regarded as an important source of innovation, employment, and competition within industries, the search for factors that might facilitate the success of these businesses is growing (Carter, Stearns,

Reynolds, & Miller, 1994). Such factors are of high importance not only to scientists, but also to politicians, entrepreneurs, and managers, because SMEs and particularly new ventures are threatened with high failure rates and low profit margins. Besides popular research topics and already proven influence factors such as human capital (e.g., level of education, experience, etc.), *strategic planning* can be considered one of these factors. Indeed, several empirical research studies reveal a link between strategic planning and corporate performance.

Due to an extensive application of strategic management techniques in large companies and a widely accepted notion that rational economic decision making should prevail in enterprises regardless of their size, practitioners and academics alike have recently called for a more substantial use of strategic planning in SMEs. Rue and Ibrahim (1998) even argue that strategic planning is one of the key issues for SMEs. Most strategic concepts and techniques are considered to be irrespective of company size. Nonetheless, SMEs normally dispose of a lower level of resources, have limited access to target markets, and possess an insufficiently developed administration. Thus, the application of formal strategic planning mechanisms is often missing, especially up to a certain “critical size” of the company (Karagozlu & Lindell, 1998).

Ineffective deployment of strategic planning can even be considered the main reason for failure to achieve expected or projected performance in many firms. However, in real business, a major weakness that is often inherent in SME management is the absence of top management’s economic

knowledge or its overorientation toward technical problem solving. Accordingly, strategic techniques are only rarely applied to SMEs. Formal plans and/or market-related result or cost controls are often only provided on an irregular basis. Additionally, a small number of individuals usually derive the respective techniques, which they develop intuitively rather than theoretically. Building on this, an important issue to address is the value of strategic planning for new ventures and young SMEs.

This chapter of *21st Century Management* therefore explores how and to what extent new ventures and young SMEs apply strategic planning within the scope of their business activities. Specifically, questions addressed include why these companies seem to plan less than large companies, whether strategic planning and corporate performance correlate with each other, and whether strategic planning is a function of increasing company size. The suggestion that enterprises that plan strategically are more successful than those that do not implies that, building on existing empirical initial evidence, new ventures and young SMEs reveal a lower degree of strategic planning (e.g., Gibson & Cassar, 2002), since large companies would generally be more successful than SMEs. However, this seems unlikely.

STRATEGY FORMULATION IN SMES

Characteristics of SMEs

Compared to large companies, SMEs tend to offer a more limited range of products on a more limited number of markets, and use *market penetration* and *product development* strategies rather than *market development* or *diversification* strategies. Moreover, since SMEs mainly operate in a single or a limited number of markets with a limited number of products or services, they usually cannot afford central service departments that are able to conduct complex market analyses and studies (Johnson & Scholes, 1997). In addition, they usually have fewer resources and more limited access to human and financial capital. As a result, the application of formal planning mechanisms is often missing.

Despite their relatively small market power, SMEs' small size and flexibility permits them to specialize in narrow niches that are generally less interesting for larger enterprises due to the relatively small sales volumes and their high fixed costs. In addition, SMEs' limited resources result in a concentration on a small product range where strong competitive advantages and specific problem-solving competencies can be built up, for instance with regard to *qualitative market leadership*. Higher decision flexibility and direct customer contacts are particularly helpful for the conversion of research and development (R&D) results into marketable innovations, although nondiversification risks remain in terms of overdependency on only a few products.

Table 8.1 Characteristics of SMEs

<i>Threats</i>	<i>Opportunities</i>
Limited resources, time, and means	High customer proximity High market knowledge
Limited know-how and methodological knowledge	Strong influence by the entrepreneur (engine of change)
Focus mainly on only one market or product	High identification and motivation of employees
Potential overload for management	Quick implementation possible

Table 8.1 enumerates some typical characteristics of SMEs, which might result in opportunities or threats with regard to strategic issues.

The Nature of Strategic Planning

No single subject has dominated the attention of managers, consultants, and academic researchers as much as the subject of “corporate strategy.” Therefore, during the last 2 decades, the attribute “strategic” has almost become a buzzword. Particularly in the United States, an almost countless number of related articles have been published.

From a corporate perspective, *strategy* can be defined as an approach utilized to reach the company's goals in order to be successful on a long-term basis. *Corporate strategy* is an area within management science that is concerned with the general direction and long-term policy of the business in contrast to short-term tactics and day-to-day business operations. *Strategic management* thus means management in pursuit of and on the basis of a corporate strategy. The discipline of strategic management formed in the 1980s is based on advancements in the field of *strategic planning*. Strategic management mainly deals with matching the activities of the business to the resources as well as to the environment in order to maximize the opportunities and minimize the threats. One of the most important approaches since these days is the so-called SWOT (strengths, weaknesses, opportunities, and threats) analysis, by which a firm can assess its market and the environmental conditions impacting on its strategic plan.

The most important element of strategic management is *strategic planning*. In general, strategic planning is regarded as long-term oriented (at least 3 years), directed toward future yield potentials, substantial and holistic in nature, and predominantly associated with the highest management level determining the vision, mission, and culture of the enterprise. Strategic planning is the attempt to prepare for all eventualities by abstraction and thus to account for the complexity and the dynamics of the environment. This entails the need to build alternative future scenarios and configurations. Although no one can foresee the future, it is possible to prepare for the future and/or alternative futures and align the enterprise accordingly.

In contrast to strategic management, strategic planning is not about visionary future concepts, but rather about extrapolating present development tendencies into the future. Hence, it does not provide visions but, more specifically, guidelines and programs for the achievement of specific goals. Consequently, strategic planning specifies the basic conditions and the scope of future business activities, and thereby is a fundamental element for strategic management, which, in turn, is responsible for goals and visions.

Bracker and Pearson (1986) have developed a scheme that divides planning in SMEs into four categories:

1. Unstructured planning
2. Intuitive planning
3. Formal operative (short-term) planning
4. Formal strategic (long-term) planning

In the context of new ventures and young SMEs, strategic planning is of particular interest since strategies for these SMEs have to be developed in a highly emergent way (Mintzberg, 1994), reflecting their fast-changing requirements.

The Role of the Entrepreneur

Management of SMEs and new ventures is always an integral part of entrepreneurship. The word “entrepreneurship” is derived from the French “entreprendre,” which can be translated as “to undertake” or “to take in one’s own hands” (Schaper & Volery, 2004). The real entrepreneurial work is about bringing new ideas into actual ventures that exploit market opportunities by better serving the customers’ needs.

The entrepreneur does not necessarily have to be the inventor of the new product, service, or business—but he or she is the one introducing this innovation to the market place. Entrepreneurs are therefore people who take something (e.g., an opportunity or a business venture) into their own hands, at their own risk.

In most SMEs, usually only top-level management (i.e., the entrepreneur him- or herself) is responsible for the development and deployment of strategic plans. Hence, the role of entrepreneur is always critical for the whole strategic process. Next to the entrepreneur, who is legitimized to do so via ownership, external (employed) managers, such as a CEO, may lead such an enterprise.

Due to the size of the enterprise, the entrepreneur is most deeply rooted in day-to-day business operations and thus is also involved in all levels of decision making, some of which occur simultaneously. Accordingly, personal goals, characteristics, and the entrepreneur’s strategic awareness have an important influence on the development of the enterprise, and often the rate of strategic planning sophistication is a function of the entrepreneur’s previous experience.

Besides, the process of strategic decision making in SMEs is often not only based on experience, but also on intuition or guessing. Therefore, strategic decisions mostly

reflect the subjective orientations and attitudes of the entrepreneur. The role of the entrepreneur and his or her attitude toward strategic issues are thus often critical for the implementation of planning measures. Planning is an activity without direct returns, which is hard to justify (psychologically), either if customers are flocking to the company or if they are hard to come by and marketing and sales activities appear more important.

Although business schools regularly stress the relationship between strategic planning and corporate performance, only approximately 20% of all college graduates obtain their degrees in management science. Academic research shows that education has a significant influence on strategic activities; the probability to think and act strategically grows with the level of education. Especially for business graduates, the probability of having written a business plan is much higher than for their nonbusiness counterparts.

However, since many entrepreneurs have not graduated from college or have obtained their degrees in nonbusiness areas, it follows that many have limited knowledge of the strategic planning discipline and therefore limited managerial qualifications. Moreover, entrepreneurs have different aversions against strategic planning and the application of formal methods such as strategic planning.

Reasons Against Strategic Planning in SMEs

In real-life business, preparation mostly comes through strategic planning. Many SME owners and managers routinely plan their daily operations, but do not believe that strategic planning applies to them or are not sure if strategic planning will improve corporate performance.

Even though most authors agree that strategic planning can be very useful for SMEs, few of these firms utilize this and instead follow the strategy of “muddling through” (Porter 1985). The reason for this is that many decision makers in SMEs are still convinced that “real entrepreneurs don’t plan” (Posner, 1985). An entrepreneur who has done fairly well so far without strategic planning might also simply be reluctant to change.

Academic research has derived several factors that inhibit the use of formal planning in SMEs. From the entrepreneur’s perspective, the major objections against the use of strategic processes in SMEs are that

1. strategic measures and techniques constrain flexibility and the ability for improvisation;
2. it makes more sense to use the limited time resources for operational or sales activities or research and development (R&D) than for strategy-formulation processes; and
3. strategic management is too bureaucratic.

The true reasons behind such aversions are often deficient know-how, overestimation of one’s own capabilities, rejection of external help, thinking in traditions, or fear of far-reaching changes.

Nonetheless, especially in times of increasing dynamics and uncertainty, it is vital to stay informed about corporate goals and their attainment on a regular basis. The strategy-formulation process therefore should be regarded as a future investment. Although the majority of the well-known strategy concepts mostly originating in the 1980s have been developed for big companies, which generally display a higher awareness for existing problems and can hence allocate more resources to this issue, some of the strategic concepts and techniques also seem to be suitable for implementation in SMEs. One of the main benefits of strategic planning lies in the predictability of possible future scenarios and variations. Besides, no business is too small to require a sound strategy, and few strategies are so simple that they do not have to be developed into some form of a strategic plan.

STRATEGIC PLANNING FOR SMALL ENTERPRISES

Strategic Planning in New Ventures

In the recent years, governmental, nongovernmental, and educational institutions have dedicated a large effort toward the promotion and training of strategic thinking as well as actual strategic planning activities for entrepreneurship. The rationale behind this is that every business, regardless of its size, should have some form of strategic plan. Founders of new ventures always follow some sort of strategy to reach their goals, although these strategies are not always highly rational or explicit. In the case of SMEs, however, this strategy may be represented by the manager's general thoughts. Only with increasing size, the strategic plan becomes more formal and elaborate. This formal document is called a *business plan*.

In general, a business plan is the written form of the firm's overall strategic plan, which aims to put in place tools, techniques, and processes that identify and achieve the business's long-term goals. A business plan addresses key questions about the vision an enterprise strives to achieve and the operational details about how it aims to get there. It can thus be defined as "a written document that describes the current state and the presupposed future of an organization" (Honig & Karlsson, 2004, p. 29). In other words, a business plan collects and summarizes all information that is relevant for the business. It is accordingly some form of the entrepreneur's "game plan." A business plan legitimizes the new venture proposal and serves furthermore as a means of communication with external stakeholders, especially potential investors. The business plan can therefore be regarded as both the first step in the strategic planning process as well as its overall documentation.

A business plan covers the long-term focus of the business as well as operational issues such as marketing, operations, and financing. The major elements of a typical

business plan include an executive summary, the firm's background including detailed relevant information about the founding persons, the firm's resources, the product, marketing details, operational arrangements, and financial projections as well as a timetable for implementation (Schaper & Volery, 2004).

Surprisingly, so far only few academic researchers have dealt explicitly with the business plans of SMEs. A business plan is usually regarded as a rational activity that assists the entrepreneur to make larger profits. It was found that contents of business plans and their implementation can play an important role in effective planning. It is a commonly accepted assumption that business plans are made by rational economic actors.

Writing a formal business plan is widely regarded as one of the most important aspects of strategic planning. The existence of a business plan is widely regarded as a valid indicator for the firm's attitude toward strategic planning. The underlying assumption is that a written business plan represents good planning (Heriot & Campbell, 2004).

Formal written plans are widely considered better than informal, unwritten plans because they foster critical thinking, group decision making, and internal as well as external communication, and furthermore serve as a control mechanism for possible course corrections (Baker, Addams, & Davis, 1993). Start-ups with business plans seem to have better access to external money (from banks, venture capitalist companies, etc.), and are therefore more likely to actually go into business. Particularly for small businesses, the development of a business plan is widely called for in order to enable financing for internal and external communication and as a control mechanism.

Yet in real life, many businesses—sometimes more than half of the interviewed companies—lack a solid business plan and the majority write one only when external funding is needed. This refers to the widespread assumption of banks, business angels, and venture capitalists that business plans are necessary for success. Nevertheless, the existence of a business plan prior to new-venture founding contributes positively to corporate performance (i.e., profitability) as well as to the survival of the companies (Kraus & Schwarz, 2007).

Strategic Planning in Young SMEs

As conventional wisdom and empirical evidence seem to ascertain, strategic planning is a concept that marks out successful companies. Strategic planning may assist entrepreneurs in recognizing the breadth and complexity of their business. The level of uncertainty is reduced by providing a better understanding of the circumstances of its business, and hence to better prepare for the future. Accordingly, strategic planning helps to cope with the insecurities of businesses, and thus brings a beneficial value for the future, even above the sole acquisition of capital. It saves time and enhances management professionalism after start up.

Furthermore, it promotes long-term thinking, reduces the focus on operational details, and provides a structure for the identification and evaluation of strategic alternatives.

For these reasons, several authors found a positive statistical relationship for corporate performance and ongoing strategic planning. Especially long-term formal strategic planning has been shown to have a positive relationship to performance (e.g., Kraus, Harms, & Schwarz, 2006). The pure process of (formal) planning itself already seems to have a positive effect in that it leads to a better understanding of the business and to a broader range of strategic alternatives. Formal strategic planning is elementary for long-term growth and development of small businesses.

Further empirical studies also demonstrate that formal strategic planning can be beneficial for survival and growth of small enterprises. For example, in a longitudinal analysis Sexton and Van Auken (1985) found that the survival rates of SMEs conducting formal strategic planning are higher. Lyles, Baird, Orris, and Kuratko (1993) state that a more advanced and more detailed strategic planning results in a more substantial corporate growth.

Elements of Strategic Planning in New Ventures and Young SMEs

The following paragraphs describe the most important elements of strategic planning with special consideration of their relevance for new ventures and young SMEs.

Visionary Strategy Conception

Strategy is based on the development of a vision of how the future will unfold and the company's role in it. This necessarily includes interactions between actors and environmental conditions as well as the change resulting from it. The vision is to help the organization develop a sustainable and advantageous position in competition with other actors under possibly radically changing conditions.

Goals and Objectives

Strategic management literature recommends that a company set goals or objectives, which allow for later evaluation of performance. Such goals are derived from the superordinate vision, but should be more grounded in reality and based on reasonable estimations achieved through data collection of similar businesses and competitors. Of course, setting the corporate goals is the responsibility of top management, but middle management should also be included in setting them at functional levels. Especially in the case of new ventures, the entrepreneur will most likely be responsible for both: the overall corporate goals as well as the functional goals, since there is not yet a middle management. The goals and the strategies to achieve them should be regularly controlled and updated or adapted, if necessary (Moyer, 1982).

Core Competencies

Strategic planning always includes an evaluation of the firm's distinctive competencies, i.e., the particular and hardly imitable skills and strengths. This might be a unique combination of resources, such as innovations, products, production facilities, or patents, but may also include a company's personnel, financial situation, or product development record (Moyer, 1982). If a core competency yields a long-term advantage to the company, it can bring the firm a sustainable competitive advantage.

In the context of new ventures or young SMEs, the core competence is often the innovation upon which the business model is grounded. This might, for example, be a truly innovative, novel product or service idea (in the Schumpeterian sense), or a recombination of already existing elements that are put together in a way that provides more customer service. The core competencies of a firm can be discovered by the use of the SWOT analysis (see the subsequent section in this chapter "Strategic Techniques").

Planning Horizons

Although planning often tends to center around yearly budgeting, real strategic planning is likely to be longer term. Usually, a time horizon of about 3 years is used in larger firm strategic planning (Rue & Ibrahim, 1998).

SMEs are frequently said to be more flexible than larger ones, and they often do not yet possess the necessary experience and knowledge to plan ahead for such a long time. The question is how long the optimal time horizon of strategic planning should be in small firms (Moyer, 1982). Empirical evidence shows that the average time frame for strategic planning in young SMEs is about 18 months (Kraus, Harms, & Schwarz, 2006), and thus only half as long as most strategy textbooks propose. Accordingly, it can be concluded that long-term strategic planning in new ventures and young SMEs is simply shorter than in large, established enterprises.

Formal Strategic Planning

We have already highlighted the great importance of formal strategic planning. A formal strategic plan implies a deliberate means to systematically include factors and techniques in order to achieve specified goals. Formal strategic planning can lead to a better understanding of the business and to the discovery of a broader range of strategic alternatives. Further, firms with a formal strategic planning approach are more likely to give more active consideration to potential barriers from the outside. A key component of strategic planning in small and young firms is the business plan (see the previous section in this chapter, "Strategic Planning in New Ventures").

Informal planning, on the other hand, has only limited value, since only a few planning areas can be dealt with at

the same time, whereas a formal plan allows for a synopsis of multiple planning areas. Thus, the entrepreneur is able to see connections that otherwise would have gone unnoticed.

It can be concluded that firms that apply formal strategic planning also attach great importance to the quality of the strategic decision-making processes and that decision makers develop larger knowledge of the strategic issues through the process of planning. Nevertheless, in real business life, most independently owned SMEs have a less structured approach to strategic planning deployment, and very often only plan intuitively and informally.

Strategic Techniques

Strategic techniques do not make strategy, nor do they implement strategy. Rather, they are tools that help align strategic thinking. They can be used for the identification of a firm's goals and strategies and for the presentation of complex issues, and can therefore serve as an important communication device. Among the techniques that might be able to be used in SMEs are the analysis of financial data, and the SWOT analysis (the inclusion of a company's own strengths/weaknesses in comparison to that of the competition as well as the chances/risks in the market).

One of the most important elements of the SWOT analysis is the environmental analysis, which includes changes in the economic, social, cultural, political, or business environment that might affect the firm's business. The other major element of the SWOT analysis is the customer analysis, since customers are the key to enterprise success. Customer analysis includes questions such as where they prefer to buy the products, what attributes the product should have, and how markets could be segmented (Moyer, 1982).

Other well-known strategic techniques, such as benchmarking, GAP analysis, or Balanced Scorecard, which could also be used in smaller enterprises, are often unfamiliar to entrepreneurs, especially when they do not have an educational background in management science. Also techniques like portfolio (such as the Boston Consulting Group or the McKinsey/General Electric matrices) or product life cycle analysis are usually more widespread in larger firms, since most small or young firms simply do not possess multiple products and their product is not in an advanced phase of its life cycle.

The use of several strategic techniques are beneficial for the strategic planning process in new ventures and SMEs, as empirical evidence suggests. Nonetheless, we must keep in mind that "how well" is often not the same as "how much"; it depends on the right choice of strategic techniques, not on the pure number.

Control

The implementation of a strategy and of the measures required to attain it must be measured in order to provide feedback to the employees and managers on their situation.

Even the best plan might not produce the desired results due to various unforeseen circumstances that are internal or external to the enterprise. Therefore, measuring actual against planned performance regularly and taking remedial action on factors causing unfavorable deviations from the plan are important to maximize the results anticipated through strategic planning. This is needed when current developments diverge from the predicted trends that were underlying the previous plans.

Control enables long-term plans to be adjusted in a flexible way. Frequent control helps to change the plans and respond to the new circumstances quickly and thus in a cost-efficient way. Control not only helps detect irregularities, but also helps companies handle complex situations, cope with uncertainty, and identify opportunities.

DISCUSSION

Do SMEs Plan Strategically?

Existing literature gives adequate evidence that planning in SMEs does not always take place in a highly sophisticated way. The actual process of decision making often deviates substantially from the ideal picture of rationality. Planning in SMEs seems to be rather unstructured, sporadic, incremental, and often informal.

However, it remains unclear whether SMEs do not plan strategically at all or whether they simply do not plan in a formal way (i.e., intuitively). The latter (the entrepreneur's ideas) would be the minimal approach to planning. Along these lines, it could be that not only strategic planning itself, but also the quality of the planning process play an important role. Many small-business entrepreneurs are successful without explicitly practicing strategic planning (Pleitner, 1989). It therefore seems reasonable to assume that each form of planning, whether it is conscious or unconscious, formal or informal, can also affect entrepreneurial success.

Building on these notions, it can be assumed that people in most SMEs do at least think strategically. A conscious or formal strategic process, however, mostly takes place in the head of a very small number of employees. Due to the well-accepted view that strategies can limit an SME's scope of activity too much, thereby reducing its flexibility, many SMEs are still lacking written strategic plans. Strategic awareness and the involvement of the entrepreneur could offset the lack of formal strategic planning as an output of strategic management. The degree of the entrepreneur's strategic orientation thus seems to be a key factor for the strategic focus of the enterprise.

Furthermore, small and large enterprises differ considerably in the size and type of resources. It thus appears doubtful to develop "standard" strategies and techniques that are equally effective in big companies and SMEs. As the use of strategic planning also seems to be worthwhile in SMEs, the respective techniques must be aligned with the personnel as

well as the cultural, organizational, and financial conditions of the specific enterprise in order to be successful.

The notion that there are differences in strategic goals between small and larger enterprises entails the need to also differentiate between the goals of different small enterprises. Generally speaking, goals depend on the situation of enterprises and their market niches. Overall, it is plausible to assume that the problems of different SME types will vary. Likewise, a distinction between types of SMEs is clearly needed at least in terms of age and market situation. While public interest mainly concentrates on SMEs as potential generators of growth, only a subset of these enterprises will live up to these expectations. Thus, the procedural instructions and techniques for these enterprises will differ accordingly and must be tailored to the individual case. This implies that there will also be differences in terms of necessary and/or suitable techniques of strategic planning and the resulting output. As a result, the measurable economic performance of an enterprise and thus the correlation between corporate performance and the use of planning techniques will also depend on the particular type of enterprise. For example, considerable strategic differences exist between small, mature enterprises in a stable and specialized niche on the one hand and young, growth-oriented enterprises on the other hand. While the former aim at securing their market position, further developing their technology, and closely satisfying their customers' needs in order to increase profits, young, growth-oriented enterprises will rather—after testing the functional capacity of their business model and their niche—shift their focus toward extending the market niche and their respective market share as soon as possible. This situation requires tools and techniques that focus much more on learning and sense making for small enterprises than they do for large ones.

It seems, therefore, that the central question is not whether strategic planning in SMEs is fruitful, but for which groups of SMEs and under which circumstances it is worthwhile. Enterprise characteristics differ significantly between young, small ventures and established, large companies, and so do the strategic imperatives that can be derived for each enterprise type.

BENEFITS OF STRATEGIC PLANNING

While some authors (e.g., Bhidé, 2000) argue that planning offers little advantage to small businesses, it is argued here that formal strategic planning can enhance management skills. The pure process of developing a business plan causes management to actively deal with the enterprise's goals, strategies, and plans. In doing so, management attains a larger knowledge of possible alternatives and its environment. In this vein, it can be argued that every enterprise, regardless of size, needs an effective, comprehensive business plan, as it enables its decision makers to engage with the reality of the business world rather than the common dream world. Management thus regards the business

plan as the first step toward success. Moreover, formal written plans are regarded as more effective since the formulation process itself promotes critical thinking and group decisions (Baker, Addams, & Davis, 1993).

Nevertheless, strategic planning may be a substantial factor for small business performance. Even so, it is worth mentioning that the best business plan is only of limited use if it is not implemented. The importance of the business plan as a facilitating tool for future entrepreneurs must be emphasized. Additionally, the process of strategic planning should not be a one-off, but moreover a continuous action including the adaptation of former goals and strategies within a changing environment, which is valid especially for young and small businesses. Therefore, a business plan should not be limited to the start up of an enterprise, but instead also used as a continuous working document for ongoing strategic planning during all times of enterprise development and growth.

CONCLUSION

Despite the fact that small and large enterprises differ considerably in size and type of resources, we can assume that decision makers of SMEs do apply planning, although in many cases they do so rather intuitively and/or informally. Moreover, businesses, independently from their size, seem to be capable of executing some of the most important strategic techniques (such as the SWOT analysis). Since the link between the use of these strategic techniques and corporate performance should prevail in SMEs, it is essential to foster a respective awareness in the enterprise. Since SMEs are rarely “small-sized big enterprises,” the existing concepts and techniques have to be adapted accordingly. It does not appear to make sense to develop “standard” strategies and techniques that are equally effective in big companies and SMEs. As the use of strategic planning also seems to be worthwhile in SMEs, the respective techniques must be aligned with the personnel as well as the cultural, organizational, and financial conditions of the specific enterprise.

An analysis of extant academic literature on the topic indicates that strategic planning in SMEs is subject to unique characteristics and influences. Although a high relevance of strategic planning in the context of SME management does exist, its extent and design differ from larger (multiproduct, multidivisional) companies. Accordingly, research needs to devote more time to the analysis of the idiosyncrasies of this corporate sector to advance our understanding of strategic planning in SMEs and derive valuable recommendations for research and practice.

Overall, we can state that strategic planning seems beneficial not only for large enterprises, but also for the performance of new ventures and SMEs. Formal planning in particular can be considered as being particularly useful if knowledge about the environment is scarce such as at the beginning of the life of an enterprise, in a fast-changing environment, or when management is “new” to a market,

technology, product, or business model. If the environment is well known and stable, informal plans might well suffice. However, if an organization becomes larger, its complexity and environmental exposure require more formal planning. Different organizational characteristics between SMEs, new ventures, and young enterprises, and their relation to planning implementation and entrepreneurial performance need to be explicitly considered in this endeavor.

The implementation of formalized strategic planning can nevertheless be expected to be favorable independent of company size and level of development, although in practice a positive relationship between increasing company size and the implementation of strategic planning techniques could be measured. This finding is likely to be correlated with—if not caused by—the increasing need for uncertainty reduction about the enterprise's role in its environment, an increasing attention to similar details, and an ability to cope with matters in a “mechanistic” fashion. By the time an enterprise has grown too big for one person to manage, management by instinct alone will not be sufficient, and the necessity for strategic planning arises. In that respect, scientific literature provides evidence that the use of strategic planning methods and techniques is dependent on increasing company size, and thus that SMEs do seem to plan less than established larger enterprises. Future research should therefore address these restrictions and attempt to gain deeper insight into type, extent, and alignment of strategic management techniques in SMEs and the resulting consequences for corporate performance.

Over the lifetime of an enterprise, formal strategic planning is relatively high at the beginning when the enterprise is still small, and it is again high when the organization has reached a certain complexity due to its increase in size and number of tasks undertaken. During intermediate levels of organizational size and age, formal planning might be less required because the enterprise is usually established in a relatively certain business context, where there is a certain level of task repetition and the organization has not yet reached high levels of complexity. Environmental characteristics, which can be split into the subfactors of dynamics (of environmental change) and complexity (of environmental forces), modulate the level of formal planning requirements.

The danger of formal planning conversely is that it might make strategy and management overly rigid when change is needed. On the other hand, informal methods of planning favor unconscious shifts of strategy, which may endanger attainment of goals when a stable, strict course is required.

Of course, larger enterprises can better justify the planning costs, but strategic planning does seem to make sense in smaller enterprises, too. So, what should practitioners do with this information? First, owner-managers who already know strategic concepts from their undergraduate business studies or MBA programs have a clear advantage. But because of the many flexible further education programs that exist today, either in form of part-time or distance learning

university education or even textbooks, there is not much “wisdom” left in the concepts of strategic management, although the fact remains that most of the literature has been written for large(r) enterprises. These concepts accordingly need to be adapted for the needs of smaller ones.

Accordingly, implications for scientists, educators, and consultants include increasing the awareness and sensitivity for formal strategic planning in new ventures and young SMEs. The staff of governmental, nongovernmental, and academic institutions should be more strongly encouraged to train entrepreneurs in preparing business plans such as through workshops or business plan competitions. Effective strategic planning must be grasped and “learned” by all decision makers within the company in order to be effective.

Although a business plan can never guarantee success (Crawford-Lucas, 1992), its preparation, existence, and application can at least be an important help in avoiding failure of small businesses, which can in turn be fruitful for the respective economy. This chapter thus contributes to work on small businesses since it shows that planning does make sense in small businesses. In parallel, this study also holds some interesting implications for practitioners. First, it shows that entrepreneurs should thoroughly write business plans before starting their businesses, even if they are keen to start as soon as possible. By developing a business plan in advance, entrepreneurs can discover possible risks or deficits of their business and thus reduce the likelihood of failure and increase the likelihood for financial success. In short, if you want to be more successful, obtain more knowledge of the strategic planning process.

Although many SMEs and young ventures engage in at least some degree of strategic planning, they should ensure that their written business plans are constantly being evaluated and corrections undertaken. In order to ensure maximum impact, open communication with all managers and employees is mandatory.

Baker, Addams, and Davis (1993) have further developed a four-phase approach for effective strategic planning:

1. Development of a strategic plan with a long-time horizon (typically 3 years) that includes the firm's vision, mission, core competencies as well as a SWOT analysis.
2. Preparation of a written business plan for top-management purposes.
3. Communication and implementation of the business plan.
4. Constant formal review (control), at least quarterly, including necessary corrections and adaptations when environmental circumstances change. (Strategic planning is always a dynamic process; it implies change.)

Following these phases can help increase organizational effectiveness. In the worst-case scenario, strategic planning in new ventures and SMEs would result in the enterprise knowing where it would stand *without* planning.

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 Strategic Decisions in High-Velocity Contexts (29)

PART II

BUSINESS AND SOCIETY: CONTEMPORARY ISSUES

FOSTERING SOCIAL AND CIVIC RESPONSIBILITY BY ORGANIZATIONS AND THEIR PEOPLE

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The concept of social and civic responsibility of organizations and their people recognizes that conditions beyond the immediate domain of one's particular organization are important and merit attention and care. Assuming such responsibilities may also foster the development of mechanisms to meet the challenges of local communities as well as the planet. By all accounts, the United States and the world face increasingly urgent challenges.

This chapter establishes the urgency of issues facing the nation and explains why civic and social responsibility hold relevance in the 21st century. Distinctions are made between the concepts of social responsibility and civic responsibility, and their historic roots are explored. The model of society found in the Constitution of the Commonwealth of Massachusetts is presented as guidance for today.

Business organizations provide the focal point for this chapter. The context of the origins of debates with regard to the social and civic responsibility of business is described. The need for the enhancement of human intellectual capital for problem framing and problem solving is set forth, with cross-sector frameworks presented as assets to enhancing needed human intellectual capital. The impact of an increasingly unscripted future is detailed and strategies for fostering civic and social responsibility are discussed.

THE URGENCY

The U.S. economy has been undergoing a major transition for over half a century. This change has been detailed by numerous scholars and is generally described as a shift from the Industrial Age to the Information or Knowledge Age. Just as there was a significant transition from the Agrarian Age, where most people farmed and produced agricultural goods, to the Industrial Age when the assembly line and mass production were introduced, so now the U.S. economy is engaged in a monumental shift that is just as significant, if not more so, than anything ever experienced in the United States. As noted economists Reich (1992) and Rifkin (1996) point out, the economy has transitioned from work in buildings, plants, and assembly lines as creators of wealth to work in the creation, development, and implementation of ideas as creators of wealth. Fueled by technology and globalization, the shift to the Knowledge Age emphasizes information, knowledge, expertise, and creativity. Knowledge must be created, learned, categorized, evaluated, analyzed, retrieved, stored, indexed, made accessible, and transmitted. Massive transformations in social institutions are occurring as a result. Old economic forecasting models are out of date.

The forces of globalization and technology are changing the way we think and live in a myriad of unanticipated

ways. Going beyond the remote control on the television set, people are increasingly getting their information from specialized sources and connecting all over the world via wireless technologies—YouTube and iPods to name a few.

While the United States was once the unquestioned economic superpower on Earth, it is now freely acknowledged that its exalted status is in great jeopardy, as the economies of China, India, the European Union, and others are emerging at a previously unfathomable pace. Friedman's (2006) work in this area described how technology makes it possible for people in other parts of the world to take on jobs in U.S. corporations that Americans once held, at a fraction of the wage, causing considerable upheaval in the United States while fueling a rapidly expanding middle class in India and China.

All the while, in a separate but related development, the reality of global warming and climate change is appearing as the defining issue of the century, threatening not only endangered species and island nations in the Pacific, but also possibly human society as we know it. The documentary film *An Inconvenient Truth* and the book by that title, both featuring former vice president Al Gore, have brought the urgency of global warming to the attention of the American people. More recently, the massive and detailed report by Sir Nicholas Stern of the Treasury of Great Britain speaks of the consequences of climate change in the starkest of terms, with the possibility of posing threats previously unknown to human civilization. The Stern report includes ways in which economies can be strengthened by addressing climate change issues.

In a knowledge-based society, it is clear that human intellectual capital is required in order to meet these challenges (as well as many others not discussed here and not yet realized). Human intellectual capital refers to the capacity to marshal key relevant knowledge and expertise, creative genius, and analytical and problem-solving skills to certain ends. Human intellectual capital provides the skills necessary from which to draw multiple perspectives in framing issues and creating solutions.

It is within the context of these dramatic upheavals that issues of civic and social responsibility are considered. While such responsibilities may often be seen as "optional" for management and organizations, taking on such responsibilities is now often a necessary skill for individuals and communities. Engagement with social and civic responsibility enhances the development of human intellectual capital in the United States and the world, and thus is key to meeting the challenges facing the global community.

Civic responsibility and social responsibility are not standard ideas in management texts. In many ways, these ideas are new to the management field, though they are most closely linked to ideas found in ethics, business, and societal concepts. This chapter addresses the roots of social and civic responsibility, the role of such responsibility in human intellectual capital development, and how such responsibility is fostered.

SOCIAL AND CIVIC RESPONSIBILITY

To begin, it is important to distinguish between social responsibility and civic responsibility. While related, these two concepts have distinct differences.

Social responsibility and civic responsibility are concepts that refer broadly to accepting responsibility for improving our communities and acting for the common good. People and organizations assume this responsibility in recognition of the reality that conditions beyond the immediate domain of the organization (whether it is a corporation, small business, government agency, or nonprofit) are important and merit attention and care. Exercising such responsibility entails acquisition of knowledge about conditions in society and framing an approach or action and the application of knowledge to the issues at hand. In general, exercising social responsibility can refer to anything from serving food in a local soup kitchen, to picking up trash on the side of a highway, to reading to children in school, to volunteering in a hospital, to being a foster parent. These activities are often tied to participation in community-based organizations that work to address problems in communities and society.

Broadly speaking, what is being described as social responsibility is the ability to identify something that can be done to make things better in the community and then to act on that realization. While the United States has a long history of such citizen involvement, Putnam's research, reported in his book, *Bowling Alone* (2000), points out that Americans are increasingly isolated and disengaged from their communities and that a precipitous drop in social capital is the result. At the same time, a multitude of nonprofit organizations such as religious charities, public schools, universities, nonprofit and public hospitals, and other public benefit organizations operate with missions directed at enhancing the common good. People in these organizations may see themselves engaged in social responsibility and social capital formation by virtue of their employment in and/or volunteer contributions to organizations of this type.

Related to *social* responsibility is the concept of *civic* responsibility. Civic responsibility has the same goals as social responsibility—to address problems in society and advance the common good—but does so by way of the political structure of the U.S. democracy as a means to get things done. Civic responsibility includes the fundamental responsibility to citizenship in a free society: voting in elections for the public officials who make decisions on our behalf. In addition, efforts to influence political decisions, such as writing letters to the editor or one's elected representatives are also examples of exercising civic responsibility. Lobbying lawmakers, working on petitions, working on political campaigns and initiatives, and other forms of political activism are among the ways in which people exercise their civic responsibility. Government and legislative bodies, public agencies, and related organizations are most closely tied to this concept.

The following ways to address the issues of poverty and homelessness serve to clarify further the distinctions between social responsibility and civic responsibility. Helping to serve food in the local soup kitchen is exercising social responsibility. Civic responsibility on the same issue might include lobbying state and local officials about addressing issues of affordable housing, about raising the minimum wage, or joining an affordable housing coalition or a living wage advocacy organization that lobbies for policy change. Note in this example that while civic and social responsibility address the same issue, civic responsibility does so by leveraging the role of government.

Civic responsibility is grounded in civic knowledge, which is a fundamental understanding of how the government works and whom in the government to contact for what. For example, it may not be helpful to attend a local city council meeting with the intent of securing a change in U.S. foreign policy. Nor is it useful to lobby one's U.S. senator about a burned-out streetlight in the neighborhood.

With approximately 90,000 tax-levying governmental entities in the United States (including cities, counties, towns, states, water districts, and school districts), there is a need to have an understanding of the structure of governments in the nation, as well as the principles and premises upon which one's government is based. In the United States, that would be the U.S. Constitutional democracy.

As has been demonstrated, there is considerable overlap between social and civic responsibility. Both concepts require the development and use of important skills for the Information Age—the important human intellectual capital skills of problem identification and problem solving. These concepts are rooted in concern for the common good and in a desire to improve situations for communities and fellow citizens. Both are grounded in the embrace of human dignity and in the belief that individuals can make a difference.

The rest of this chapter details the roots of social and civic responsibility in the United States, the shifting context of such responsibilities in a global community, and the impact that an increasingly unscripted future will have on civic and social responsibility of business organizations and their people in the 21st century.

Origins of Social and Civic Responsibility in the United States

In the United States, the origin of social and civic responsibility clearly dates back to the founding of the Republic. The latter part of the 18th century saw the colonies break away from Great Britain, wage a revolutionary war against the greatest military power on Earth, complete with colonists renouncing their British citizenship, and engage in the remarkable founding of what is now the United States.

Driven by ideals of the Enlightenment—equality and liberty—the Grand Experiment established a democratic constitutional Republic by which the citizens¹ elected their

leaders. In building a new government and a society of promise, the purpose of government was clearly set forth as enhancing individual benefit and the common good. As one example of how these concepts were expressed by the founders, we turn to the oldest working government constitution in existence, the Constitution of the Commonwealth of Massachusetts (Massachusetts, 2007). This document expresses the vision that many of the founders worked to establish.

As the precursor to the U.S. Constitution in terms of provisions, goals and ideals, the Constitution of the Commonwealth of Massachusetts was crafted primarily by John Adams, who would become the second president of the United States. The role and purpose of government, and the description of what the “body politic” entails, gives a stunning description of what the founders viewed as the means and ends of the Grand Experiment of self-rule.

The following indented paragraphs are taken directly from the Constitution of the Commonwealth of Massachusetts (Massachusetts, 2007). These paragraphs are included here to enhance understanding of the founding ideals of the United States. Notice that the first paragraph of the Preamble sets forth the role of government: to give individuals the power to enjoy “the blessings of life,” and that if the government fails in this regard, then the people have a right to change the government:

PREAMBLE The end of the institution, maintenance, and administration of government, is to secure the existence of the body politic, to protect it, and to furnish the individuals who compose it with the power of enjoying in safety and tranquility their natural rights, and the blessings of life: and whenever these great objects are not obtained, the people have a right to alter the government, and to take measures necessary for their safety, prosperity and happiness.

In addition to charging government with the responsibility of facilitating a better life for people is the idea that the people had a right to change the government, to depose leaders of their government. This “power to the people” was a truly remarkable notion at the time within the context of centuries of rule by kings and royalty.

Turning now to the following second paragraph of the Preamble, note that the body politic is defined as a voluntary association, creating a “social compact” where all citizens work together for the common good.

The body politic is formed by a voluntary association of individuals: it is a social compact, by which the whole people covenants with each citizen, and each citizen with the whole people, that all shall be governed by certain laws for the common good. It is the duty of the people, therefore, in framing a constitution of government, to provide for an equitable mode of making laws, as well as for an impartial interpretation, and a faithful execution of them; that every man may, at all times, find his security in them.

Note here that fairness in the law (making and interpreting) is set forth as a value. Adams also establishes the principle that people find security in the rule of law. No one is exempt, and the law is not to be applied unevenly among members of society.

Turning to Article VI of the Constitution, which follows, note how it clearly sets forth a defining position on the value of equality and the disdain for privilege.

PART THE FIRST: Article VI. No man, nor corporation, or association of men, have any other title to obtain advantages, or particular and exclusive privileges, distinct from those of the community, than what arises from the consideration of services rendered to the public; and this title being in nature neither hereditary, nor transmissible to children, or descendants, or relations by blood, the idea of a man born a magistrate, lawgiver, or judge, is absurd and unnatural.

Note that in this article on assumptions of or granting of privilege, particular associations of people (be they religious groups or business groups) are not to hold any advantages or privilege over anyone else.

In the following Article VII are details of the extent to which government is to act for the common good and not for the private gain of one person over another.

Article VII. Government is instituted for the common good; for the protection, safety, prosperity and happiness of the people; and not for the profit, honor, or private interest of any one man, family, or class of men: Therefore the people alone have an incontestable, unalienable, and indefeasible right to institute government; and to reform, alter, or totally change the same, when their protection, safety, prosperity and happiness require it.

As you can easily see, Article VII reinforces the previous ideas of equality and fairness set forth in the Constitution. Recognizing that any government is an instrument of power, Adams and others sought to ensure that the power would be fairly distributed for the benefit of all.

Reinforcement of the notion that the people have a right to change their leaders if it turns out that the leaders are not serving them well is strongly set forth in Article VIII.

Article VIII. In order to prevent those, who are vested with authority, from becoming oppressors, the people have a right, at such periods and in such manner as they shall establish by their frame of government, to cause their public officers to return to private life; and to fill up vacant places by certain and regular elections and appointments.

It is important for all who benefit from the American democratic system to recognize and understand the principles established in the Constitution of Massachusetts. These principles, articulated and codified in the late 18th century, form the foundation for civic and social responsibility in the 21st century. These principles include that individuals are

responsible for their government and for the common good. Individuals are entitled to the benefits of sound government and a functioning society. Individuals are equal and have equal rights. The benefits of society and government are to be distributed fairly. Individuals can make a difference. With these principles, the foundation for the nation, and for the growth and development of human intellectual capital, was born.

While many Americans see the founding of the nation as a given, the effort at the time was tremendously complex. For example, it was challenging to convince many new Americans, who had just broken with Great Britain over the overbearing power of the King, that they would benefit from a Constitution and a central government. The issue at hand was concern for the concentration of power.

Three of the founders, Alexander Hamilton of New York, James Madison of Virginia, and John Jay of New York published a series of essays in newspapers throughout the colonies (published over the same signature: Publius), arguing for a central government and for the Constitution. Madison, who would become the fourth president of the United States, in his *Federalist 51* essay pointed out that since men are not angels, there is a need to have a state which is governed by law.

If men were angels, no government would be necessary. If angels were to govern men, neither external nor internal controls on government would be necessary. In framing a government which is to be administered by men over men, the great difficulty lies in this: you must first enable the government to control the governed; and in the next place oblige it to control itself. A dependence on the people is, no doubt, the primary control on the government: but experience has taught mankind the necessity of auxiliary precautions. (Madison, 1788/2007a)

Remember that the founders were seeking to establish a society and government characterized by equality and fairness, as expressed by the Constitution of Massachusetts. Yet here, Madison acknowledged a fundamental quality of human society that people need government to ensure that fairness because “men are not angels.” This precaution had to be taken and developed into the structural systemic precaution of the checks and balances built into the U.S. Constitutional system.

It is important to note that at that time, the 18th century and earlier, it was astonishing for citizens to be deemed capable of the enormous responsibility of selecting their government and its leaders. But Madison argued that all citizens were imbued with this task in order for the government to be formed and to function. Madison wrote in *Federalist 57*²:

Who are to be the electors of the federal representatives? Not the rich more than the poor; not the learned more than the ignorant; not the haughty heirs of distinguished names more than the humble sons of obscurity and unpropitious fortune.

The electors are to be the great body of the people of the United States. They are to be the same who exercise the right in every state of electing the corresponding branch of the legislature of the state. (Madison, 1788/2007b)

The premise of this entire effort of establishing a Constitutional democratic republic was that citizens would then, now, and in the future take civic responsibility. On this and this alone is the future of the Republic grounded. For citizens to do less is to jeopardize the continuance of the Republic.

Turning now to social responsibility, as explained previously, this concept is closely aligned with and derived from civic responsibility. The birth of the Republic posed expectations that were consistent with emerging voluntary associations engaged in actions to secure the social compact, of which Adams spoke. Many scholars have detailed how Americans voluntarily came together for the common good in the early days of the Republic. Voluntary groups and federations began to appear in New England in the 1820s. Churches, federations and leagues, poor houses—a myriad of associations began to emerge in the early 19th century.

In short, it is clear that civic responsibility is a foundation of the nation. Selecting the leaders of the government was an unprecedented role for the common citizen and tremendously empowering. If people could be entrusted with such a task, then surely they could be expected to address problems around them. Social responsibility is thus an outgrowth of civic responsibility. The ultimate purpose of such responsibilities is action for the common good. This responsibility is accorded to each citizen regardless of income or position in life. No one is exempt.

One can argue that as long as there are identified ways to improve society and the world, then people have a responsibility to help make things better. While numerous public benefit organizations (government agencies and nonprofit organizations) exist for that explicit purpose, such organizations are unfortunately by no means immune from corruption and dishonest actions, as Madison clearly understood. Rather than consider how these organizations can foster civic and social responsibility, it is argued that such responsibility is what they do. Attention is turned here to business organizations.

SOCIAL AND CIVIC RESPONSIBILITY OF BUSINESS ORGANIZATIONS

There is no question that multitudes of past and current leaders of business in the United States have taken and do take very seriously their social and civic responsibilities. That said, there is legitimate ambiguity regarding the proper role of business organizations in civic responsibility. Few would agree that employers should tell their employees for whom to cast their votes, for example. Many employers do encourage civic participation among employees by giving them time off work to cast their ballots, as well as by other

means. Clearly, directing employees to vote for or against a candidate for public office is not considered appropriate civic engagement for business leaders.

Turning to social responsibility of business organizations, the debates here tend to center on the function of these organizations in a free market capitalistic economy. The background of these debates draws out the tensions between the role of government and the role of business in society.

It is useful to recognize the contrasting arguments in a long-standing debate as to the social responsibility of business in society. The arguments are fully considered in the chapter of this volume that discusses business and society. Some scholars, such as Dahl (1998), argue that democracy and market capitalism are fundamentally not compatible, because market capitalism creates inequalities and that inequalities can lead to political unrest. In this situation, some citizens have undue advantages, as Adams would say, and the fairness of government and of the law is compromised.

Some hold the view that expecting business organizations to embrace social responsibility is a weak attempt to make capitalism compatible with democracy. When businesses do openly engage in social responsibility, cynics accuse the leaders of these organizations of simply making use of their good actions to market themselves as solid citizens.

That aside, it is important to focus attention on this important context of social and civic responsibility. Just briefly: while most of modern economics goes back to the mid-18th century in Scotland, to the writing of Adam Smith and his portrayal of the “invisible hand” of the marketplace, the debate on social responsibility can be said to start with Smith as well. A moral philosopher, he was heavily influenced by John Locke’s “social contract” theory. Locke’s ideas are familiar to those students of the Constitution of the Commonwealth of Massachusetts, as Locke links the legitimacy of government to the government’s ability to provide needed protections for citizen’s basic rights.

Smith’s *Theory of Moral Sentiments*, published before *An Inquiry as to the Nature and Causes of The Wealth of Nations*, clearly details the role of sympathy in human relations, decrying exploitation and the relentless pursuit of greed. Smith’s attention to moral sentiments is significant as his “invisible hand” idea is often cited in support of any undesirable consequences of the free market on those who are less privileged. While the “invisible hand” might not be governed by Locke’s “social contract,” moral sentiments would compensate, assuring equality and fairness.

Turning to more contemporary times, the latter part of the 20th century saw a growing national debate in the United States regarding the role of business in society. Famed economist Milton Friedman (1970) asserted that “the only social responsibility of business was to make profits.” At the same time, economist John Kenneth Galbraith (1973) argued for an enhanced governmental role in ensuring an economically just society. Both economists agreed on the same ends—a

vibrant society in which everyone benefits. Their disagreement was on the means to those ends. But it is important to understand that often the debate on social responsibility of business is grounded on the divergent premises of the arguments of these two prominent economists.

Milton Friedman's views, in concert with supporting political ideologies, prevailed during the last three decades of the 20th century and still prevail in the United States today. Corporate accountability to the investor and dedication to profits has become the hallmark of many of the largest U.S. corporations. To make a long story short, the latter part of the 20th century saw a dramatic turn away from the view that companies and firms had responsibility to employees and communities, in addition to their responsibilities to investors. During these decades, investors became the only legitimate stakeholder in corporate America; the investor became the only entity to whom companies and firms are accountable.

Two dominant changes also came into play during the last decades of the 20th century that contributed to corporate action. These changes are technological advances and globalization. Without advancing technologies that have replaced workers in the manufacturing plant and enabled the production of X-rays easily read by doctors overseas who command far less pay than U.S. radiologists, the employee might still have an honored status in corporations.

Corporate actions made possible by technology and globalization include the closing of manufacturing facilities and outsourcing of jobs to cheaper labor markets in other countries and overseas. The long-held "psychological contract" between companies and employees has been abandoned. U.S. employees are learning new rules of survival. No longer is competence on the job enough—people have to retrain, get reeducated, and prepare for an increasingly *unscripted future* for themselves and their children. For those who remain employed in these firms, they too tend to see themselves as at risk.

Scholars and the media alike point out that in the wake of losses in middle-class jobs, most of which were supplanted by lower paying service-sector employment, millions of Americans have seen their retirements decimated, lost their health insurance, amassed huge medical bills, lost their homes through foreclosure, and plunged into debt (Warren & Tvaqi, 2003). American families have used their credit cards for food and house payments, with the mistaken optimistic belief that their next job would be a better one than the one they just lost. Personal bankruptcies have continued at high levels for years in a row, and approximately 50% of the bankruptcies have been due to medical bills. In the first research to connect middle-class families to the need for charitable assistance, DiPadova's (2001) research on welfare reform in the late 1990s indicated that charitable leaders were most surprised to see the increase in the numbers of two-earner middle-class families coming to them for help.

Criticism of U.S. corporations for their practices, as well as government inaction to help those families affected, has

become widespread. Even Lou Dobbs (2004, 2006), financial commentator for CNN News, began to criticize free trade and champion the plight of the middle class in books and on his daily newscasts. Other voices included *New York Times* writer Louis Uchitelle (2006) and Yale political science professor, Jacob Hacker (2006). Increasingly since 2003, other print and broadcast media have drawn attention to the middle class, as well and it surfaced as a campaign issue in some of the congressional elections in 2006.

The 2006 midterm elections in the United States saw a rise of populism, free-trade critics, and isolationism, as attention by candidates to the middle class became more pronounced. Concerns regarding growing income inequality in the United States and even CEO compensation were set forth as an issue by Senator James Webb of Virginia in delivering the Democratic Response (Webb, 2007) to President George W. Bush's State of the Union Address. In fact, just 6 months earlier, Secretary of the Treasury and former CEO of Goldman Sachs, Henry Paulson, expressed his concerns regarding widening income inequality in an address at the Columbia Business School, delivered shortly after his confirmation (Paulson, 2007). Deviating from his prepared remarks, he indicated that growing income inequality in the United States was his greatest concern, for when people lose confidence in the system, it begins to break down, prohibiting progress on other policy priorities (social security, trade, and energy).

The dynamic of the impact of globalization and technology on American business came at an unfortunate time for that sector. The United States experienced several decades of very public business and corporate scandals and associated ethical lapses, greatly intensifying public and academic critical attention to the role of business in society. These scandals further eroded public trust in corporations, raised corporate governance issues, and directly led to the passage of the Sarbanes-Oxley Act in 2002. More recent scandals are detailed on a number of Web sites (Patsuris, 2002; Associated Press, 2007; Citizen Works, n.d.; Economist, 2002; Chilingarian and Doyle, n.d.; Masters, 2005).

In response to growing concern about American business issues, in the mid-1990s schools of business in the United States intensified "coursework in business ethics, responsibilities of leadership, and business and society" to the point of being "installed and almost universally adopted, especially in AACSB accredited schools" (Kolenko, Porter, Wheatley, & Colby, 1996, p. 134). Ethics courses in business and public administration graduate programs nationwide have been increasingly emphasized because of the public's concerns.

Presenting a compelling solution to current issues facing corporate America, Waddock (2002) argued that U.S. corporations' acknowledgment of investors as the only stakeholder is fundamentally flawed. She pointed out that there are multiple stakeholders (including communities, employees, customers, suppliers) and multiple bottom lines. In addition, she called for fundamental vision and value shifts in order to meet the global challenge. These shifts incorporate

social responsibility as part of standard operating procedure by recognizing multiple stakeholders, building a better world, seeing “business as integral to society” rather than as separate, and valuing democracy over authority and respect over hierarchy (pp. 323–325). Her groundbreaking work can be seen as a thorough attempt to make market capitalism compatible with democracy.

As is seen, the debate on social responsibility of business organizations is ongoing, and the role of government is still part of the debate. However, considering the magnitude of the challenges facing the nation and the planet, it may be that the time has come for a paradigm shift of enormous proportions. The new paradigm recognizes that business and government must work in tandem to address the challenges ahead, along with institutions of the nonprofit sector, or civil society. Developing the needed human intellectual capital required to address the issues of the day is a dire and common concern for all organizations across all sectors.

The workforce in the United States is already cross-sector, as described next. This factor enhances the development of human intellectual capital, as employees learn from experiencing different sectors throughout their careers.

21st-Century Multisector Reality

This section explores the need to abandon the sector-centric mindset that dominates professional education and organizations in the 20th century. The sector-centric mindset is the insistence of pursuing the perspective and interests of one sector of society (business, government, or nonprofit) to the exclusion of recognizing the value and legitimacy of the other sectors. The sector-centric mindset does not match the requirement of organizations to work with other organizations across sectors in order to meet their goals. Nor does the sector-centric mindset match the reality of people’s lives, and many find employment in multiple sectors during their careers. Further, the sector-centric mindset is damaging to the development of human intellectual capital in the United States, as it denies the legitimacy and value of experience across sectors.

Historically, American management education has been characterized as sector-centric. That is to say, business managers and leaders, educated in university business programs, often viewed themselves as having little in common with government or public managers and leaders, who were educated primarily in university departments of political science. Vastly separate degree programs and course curricula followed suit. This means that the conceptual framework within colleges and universities and with which organizations cast the work, problems, and issues of business, government, and nonprofits, is a siloed, narrow, limited, departmentalized framework.

While U.S. society has multiple sectors (the economic/business sector, the public or governmental sector, and the nonprofit sector—the sector known as civil society, third sector, or the independent sector), the sector-centric mindset still prevails. This mindset extends to devising frameworks

for addressing challenges of the day. These frameworks tend to gravitate to an either-or stance: either as prompting business solutions or requiring government action. This either-or stance exists in part because business organizations, like government agencies and nonprofit organizations, traditionally have been seen as encased in separate and discrete sectors of society. However, maintaining this mindset is unfortunate because increasingly, real and urgent solutions need to draw on the resources and capacity and contributions of all sectors of society. It is no longer enough to rely on simply one.

While the sectors of society are typically presented, discussed, and studied as separate entities, in reality they function in a mutual and symbiotic set of relationships. Each of the three sectors of societal organizations is critical for the well-being of the society as a whole, or the competitiveness of the nation, and for the development of human intellectual capital. Organizations in each sector have a stake in the viability and missions of organizations in the other sectors. “When any one of these sectors gains too much power and influence, the delicate system that operates for the common good is jeopardized” (DiPadova, 2000).

Businesses and firms need the structure and benefits of government in order to operate; the intractable problems faced by businesses in Russia where contractual agreements are not honored, is but one example of the difficulties of operating firms in an environment where contracts are not honored. In contrast, note that business firms are flourishing in China, fueled in part by a strong central Communist government.

Likewise, governments are challenged during severe economic downturns, such as what is happening in states and communities with high foreclosure rates. State and local jurisdictions and school districts face dramatically decreasing funds as residents lose their jobs and their homes; this dynamic limits funding for schools and other services. The nonprofit sector, that which includes religious and other charitable organizations, foundations, associations, and other public benefit organizations, provides the lifeblood of modern society, marshalling creativity and resources to address challenges of communities. Corporate layoffs and downsizing often have a direct impact on government coffers and subsequent ability to provide needed social services. The ability of local public educational institutions to provide an educated and competent workforce impacts business decisions to locate in a certain city or metropolitan area.

The work of business does not take place in a vacuum, and the health of business, government, and nonprofit organizations are inextricably intertwined. All are stakeholders in the common good. Businesses unavoidably impact the societies in which they operate and need to be accountable not only for the positive, but also for the negative by-products of that intersection.

Business leaders often contribute to the nonprofit sector, serving on boards of directors. Business school graduates who assume positions in corporations frequently change

careers and take on responsibility in nonprofit organizations and government agencies. Prominent business leaders sometimes accept a call for public service and may lead a public agency; Secretary of the Treasury Paulson is among this group.

Additionally, public policy and business interests converge in key areas. Successful business leaders know how to interact effectively with public policy makers in a wide variety of forums. For example, in various states, councils of business leaders are set up to advise government agencies charged with implementing new welfare policies. Under welfare reform, many businesses are engaged in the training and hiring of welfare recipients, helping them to attain a measure of self-sufficiency (DiPadova, 2001).

The importance of the multisector perspective is emphasized by the fact that distinctions between organizations in the various sectors are blurred. Some government functions, such as the management of prisons and other correctional institutions, are being privatized; many businesses routinely engage in the government function of tax collection; sometimes nonprofit organizations accumulate considerable wealth.

At the same time, many leadership and management concepts find application to all organizational settings, regardless of sector. Churches, government agencies, multinational corporations, small business companies, foundations, schools, hospitals, and nonprofit organizations experience the organizational dynamics and authority issues, as well as leadership and management principles and competencies—in different settings.

Organizations in each sector may have a great deal to learn from those in the other sectors. As Peter Drucker (1998) pointed out, business and government organizations alike might gain from the practices of nonprofit organizations; perhaps something can be learned about motivating paid employees by examining the practices of those who manage volunteers.

The challenges of the nation and the globe require engagement from the three sectors that comprise modern society. One way to develop needed human intellectual capital to address the challenges facing the nation and the world is to draw on the varied experience of employees who change jobs from one sector to the next. Such changes are not unusual at the highest levels of government. For example, U.S. President Dwight D. Eisenhower was a military general as well as a past president of Columbia University. U.S. President Woodrow Wilson had been president of Princeton University. Learning from varied experience can be enormously helpful to enhancing the requirements of the current job position, and bringing better problem-framing and problem-solving skills to situations.

Many people change careers (not merely jobs) seven to nine times on the average during their work life. Individuals in the United States are gaining cross-sector experience, learning from that experience and thus increasing their human intellectual capital skills. While this situation and contribution of employees is not currently framed in terms

of human intellectual capital enhancement, the point is that once organizations come to regard their employees' cross-sector experience as a critical resource for different perspectives and problem solving, employee-enhanced human intellectual capital can be recognized and acknowledged.

U.S. managers and leaders across all sectors—business, government, nonprofit, health care, education—are increasingly aware of the need to reach across sectors to move their organizations forward. All are aware of challenges from globalization, technological advances, and international affairs. Gradually, the silos of leadership and management between sectors may break down.

By all accounts, government and business efforts across sectors will increase during the 21st century as the barriers between sectors become increasingly blurred. Particularly in the global arena, daily business operating decisions, such as the establishment of working conditions, treatment of workers, production efficiency, and by-products are increasingly of governmental and public concern. Effective business leaders know how to operate responsibly and with positive societal impacts to avoid problems and ensure that their businesses gain reality-based reputations as good corporate citizens.

Increasingly a cross-sector nondepartmentalized framework will be embraced for several reasons:

1. On the macro level, the challenges of facing the nation and the world require cross-sector thinking to forge creativity and problem solving. As increasingly the nation's work is beyond boundaries, so too must be the problem framing and solving.
2. On the micro or individual level, it is important that employees be prepared to work in various sectors and between sectors. As just mentioned, the "psychological contract" between employers and employees has been shattered. Employees are "free agents" in the global workplace. As this understanding of the need to constantly be prepared and update one's skills grows, more cross-sector thinking will be embraced. Individually, as Americans consider the problems and challenges of the day and of their lives, they typically do not THINK in cross-sector terms. This characteristic is changing as more work is done between sectors and people take jobs in various sectors over a career span.

As is clear, Americans live and work in a multisector environment. This holds enormous promise for needed learning to face the challenges of the times. Learning how to draw on this readily available resource is a key organizational skill for the enhancement of human intellectual capital.

The Unscripted Future

As many writers and scholars have pointed out, the American middle class has long been accustomed to following unspoken rules and having predictable results: gaining

an education, obtaining a secure job with decent pay, purchasing a home, having affordable health insurance, preparing for children's college education, having a pension for retirement, and securing jobs at decent pay. These Americans had grown to expect that if they worked hard, their jobs, homes, health insurance, retirement, and children's futures would be secure (Warren & Tvagi, 2003; Florida, 2005; Dobbs, 2006). Meeting this set of expectations was a "script," providing a scripted future.

However, during the past two decades, Americans have learned that this is no longer the case; they increasingly understand that they face an "unscripted future." The media reports that more than 50% of Americans no longer believe in the American Dream. Further, as jobs and associated benefits have become more tenuous, other unexpected and disturbing conditions have unfolded.

Thus, Americans increasingly recognize that they, their children, and fellow Americans face an *unscripted future*, which is characterized by the following:

- Vast social, economic, employment, environmental, technological, and global changes affecting citizens and the world
- Changes so unique and unprecedented that researchers may have no data for how to assess their impacts or how to deal with them
- Changes that are beyond partisan politics
- Increased perception of personal and global impact or even risk

Dr. Derek Bok, past president of Harvard University, in his 1996 book, *The State of the Nation*, was one of the strongest voices in the late 20th century to detail "... ways in which the United States has fallen behind most other advanced democracies" (p. 406), contributing to the unscripted nature of the future of individuals and families in the United States. Most of the items on Bok's list reflect a lack of national will to invest in much-needed human intellectual capital. The list includes

1. high cost and limited coverage of America's health care system;
2. inability of many families to provide for adequate care in the event of chronic or long-term illness if old age;
3. limited safeguards given to workers in case of layoff or unjustified discharge;
4. failure to meet national goals for vaccinating infants or to do more to provide adequate nutrition to small children, make quality child care available or preschool opportunities widely available, or guarantee parental leave following the birth of a baby;
5. disappointing performance of American students in math and science;
6. excessive burdens of rent borne by many low-income families;

7. existence of urban neighborhoods marked by high concentrations of poverty, high rates of unemployment, and heavy incidence of crime, drug use, and teenage pregnancy. (p. 406)

Other items related to human intellectual capital that might be added to Bok's list refer to groups of Americans whose intellectual capital is not being used for the competitive and civic health of the nation. These groups include

1. Prisoners—the U.S. incarcerates more citizens in prison than does any other country, and twice as many as China.
2. Adult jobless—as people have lost high-paying jobs, many have simply opted out of the workforce and are living off the equity in their homes.
3. Middle and high school students—the school dropout rate is both enormous and damaging for this age group in the United States (Bridgeland, Diluilo, & Morison, 2006).
4. College-aged and adult learners—the cost of higher education and retraining is less affordable for many.

Bok's list, along with the additional items just specified contribute to a stark sense among the vast multitude of the American middle and working class that life is not improving for many people and that the nation does have human intellectual resources that remain undeveloped and unused. Meanwhile, China, India, and other developing countries are amassing enormous economic strength by deliberately investing in and developing their human intellectual capital.

Global competition demands that the United States marshal all of its human intellectual capital possible. At the same time, the nation and the planet face challenges of huge proportions, including climate change. For the first time in human history, human actions and inaction has the potential to change the planet.

All organizations, as global citizens, need to call attention to these immense changes, challenges and opportunities facing people and the world. Organizations can help employees collect an array of tools, knowledge, and resources designed to help people "scan the environment" to understand what is happening and at what pace, and to formulate what can be done to address these issues.

Fostering Social and Civic Responsibility

Organizations foster civic and social responsibility in a number of ways. They allow employees to take time off to vote in elections for public officials without penalty. Corporations often establish a foundation to fund local projects.

Given the need to enhance human intellectual capital required to face the challenges of the future, every organization and its people might consider the important work of creating a dynamic learning environment at virtually

every level of the organization to enhance social and civic responsibility. Some ideas for such an environment include the following:

1. Determine to embrace cross-sector knowledge and skills. Value and recognize managers and employees who bring learning from another sector to their work. Have these managers and employees share their experiences with other employees.
2. Resolve to abandon all antibusiness rhetoric and ideology (if a government agency) and all antigovernment rhetoric and ideology (if a business firm).
3. Deliberately recognize the urgent need to use the capacity, expertise, and knowledge from all sectors to examine critical issues.
4. Develop a multisector mindset by helping managers and employees pair up with managers and employees in another sector organization.
5. Invite people from other sector organizations/or faculty from local colleges and universities to conduct a series of discussions on cross-sector learning.
6. Do not confine talk at the office to workplace issues. Look for issues facing the world and instigate discussions of those issues.
7. Encourage and fund learning by employees at every level.
8. Encourage interest in and knowledge of international, national, and public affairs by making key publications available in offices and encouraging employees to read and discuss them.
9. Partner with a local college or university to develop an enhancing human intellectual program or an unscripted future program.
10. Partner with local public schools, developing programs that encourage students not to drop out.
11. Establish a series of events for debating issues and acknowledging the strengths of all sides of public issues affecting the world.

CONCLUSION

Engagement with pressing issues demands our attention as global citizens. Such engagement will increasingly be recognized as key to the competitiveness of the nation and perhaps survival of some human societies. Organizations and their people in the 21st century will certainly embrace social and civic responsibility in ways that were rare during the last half of the 20th century. Yet the centuries-old model inherent in the view of society and government in the Constitution of the Commonwealth of Massachusetts gives guidelines for developing the human intellectual capital and vision that would meet the challenges of the time. Or-

ganizations will recognize shared threats that require new paradigms of problem identification and problem solving. Organizations and their people can act through planned social and civil responsibility. Developing and enhancing human intellectual capacity is key. The need to draw on the capacity of all sectors of society is urgent.

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NOTES

1. Fortunately, through Amendments to the U.S. Constitution, the definition of “citizen” has changed over time to include African Americans and women.
2. Madison’s essay here argued for direct election of members of the House of Representatives. Until the passage of the 17th Amendment to the U.S. Constitution in 1913, state legislatures selected U.S. Senators from the respective states. That said, his argument certainly applies to all elections in the United States.

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POVERTY ALLEVIATION AS A CORPORATE ISSUE

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Since the beginning of the 21st century, the potential contribution of corporations to a large number of societal issues has received increasing attention and has been the subject of much controversy. This also applies to arguably the biggest global challenge of the moment: alleviating poverty. Until recently, the issue of poverty was largely ignored in management theory and practice (Jain & Vachani, 2006). First, poor people generally do not operate on “markets” and have limited buying power. Second, the issue of poverty itself is complex. For instance, do we consider absolute or relative poverty? What about the “working poor”? Third, the issue of poverty has many “issue owners,” and it is extremely hard to identify primary responsibilities. Poverty for some is a macroeconomic issue that is related to the growth of economies in general, to others poverty can be directly associated with the alleged unemployment effects of relocation strategies of Multinational Enterprises (MNEs), whilst again others consider poverty primarily a mental state that can largely be attributed to personal traits and abilities.

Studies that have tried to establish a link between poverty and MNE strategy have focused on the relationship between foreign direct investment, employment, and income inequality (cf. Fortanier, 2007). It was found, for instance, that MNE affiliates pay on average higher wages than local firms and are more capital intensive. What this does to poverty alleviation, however, is difficult to establish.

Direct MNE employment creation can be considered more beneficial to skilled than unskilled workers. The quality of the employment provided by MNEs, thereby, is more often questioned. It has also been suggested that the policy competition between governments to attract FDI can sustain less stringent safety and health regulation, as well as lower wages—sometimes below subsistence level—thus creating a subclass of so-called working poor. Management studies today lack the firm specific strategic frameworks, the conceptual tools, and the firm specific data to address the poverty issue in all its dimensions.

This rather ambiguous state of affairs, however, has not prevented the issue from appearing prominently on the agenda of corporate decision makers. Neither did it prevent business gurus from devising formulas in which poverty is considered an opportunity rather than a threat. Consequently, the mood toward the involvement of firms in general and MNEs in specific in poverty alleviation is changing. Will this mood change prove sustainable or is it merely a new management gimmick? The answer to this question largely depends on a proper assessment of the involvement of firms in poverty alleviation and the nature of the issue. First, this chapter takes stock of the way in which big firms can and do take up the issue of poverty. It discusses the many manifestations of poverty. Second, this chapter explains how this challenge has become an “issue” for corporations. Third, it discusses how firms can deal with this issue and

how leading (big) corporations actually have been dealing with the issue up until now. This analysis will finally help us to identify the challenges that are still ahead.

THE MANY MANIFESTATIONS OF POVERTY

Poverty reduction is generally acknowledged as the most important precondition for worldwide economic growth. Poverty goes together with weak human assets, a high degree of economic vulnerability, and chronic malnutrition due to insufficient purchasing power for (good/safe) food and water (Food and Agricultural Organisation, 2002). Poverty is associated with forced labor. Poverty causes child labor as children need to complement their parents' insufficient income. Poverty breeds an unequal distribution of diseases in developed as well as developing countries. Poverty contributes to a lack in education (general and illiteracy in specific). Poverty leads to social and political discontent, triggers migration, and is a breeding ground for terrorism and corruption. Poverty triggers unsustainable agriculture practices and a less than efficient use of other scarce resources. Poverty basically comes in three sometimes overlapping forms: (a) absolute poverty, (b) relative poverty and (c) working poor.

Absolute Poverty

Absolute poverty is a relatively undisputed phenomenon in regard to its size, impact on economic growth, and human dignity. Poverty measurements are usually based on incomes or consumption levels. The minimum level needed to meet basic needs is called the "poverty line." The preconditions for satisfying basic needs vary across time and societies. Living on \$1 a day represents a situation of extreme poverty, whereas the \$2-a-day margin still can be considered below the poverty line around the world. During the 1990s, gross domestic product (GDP) per capita in developing countries grew by 1.6% a year. The proportion of people living on less than \$1 a day fell from 29% to 23% of the world's population. While the number of people in extreme poverty decreased by 10%, the number of people living on less than \$2 a day in the 1990s increased to 2.5 billion (World Bank, 2004). Poverty thereby is unequally distributed over the world. Around half of humanity earns less than what is considered the minimum to sustain a decent life (\$1,500 PPP per year). The least developed countries (LDCs) are a group of 49 countries that the United Nations (UN) has identified as "least developed" in terms of their low GDP per capita. LDCs are specifically located in sub-Saharan Africa. Even when the biggest part of the world's poor are—by definition—located in the least developed countries, many of the industrialized countries contain substantial numbers of poor people as well. According to the UN Human Development Report in 1998, the percentage of poor people in the United States was 19% and 13% in the United Kingdom, whereas in France the number of poor people was registered at still 7.5% of the population.

Relative Poverty

Relative poverty is a more controversial concept related to an unequal distribution of income. The inequality in the world's aggregate income distribution increased more or less continuously since the beginning of the 19th century until World War II, after which it stabilized. But in the early 19th century, income inequality arose mostly within countries, whereas at present more than half of it is found to be due to differences *between* countries. Income inequality hampers economic growth in particular at per capital income levels below US\$2,000 (Barro, 1999; Easterly, 2002). Income disparity (even more than absolute poverty) has been considered the source of many other human problems including sickness, criminality, wars, education, and safety.

Income inequalities within societies are usually measured by the *Gini-coefficient*, which can range from perfect equality (0, everyone has the same income) to perfect inequality (1, where one person has all the income). The United States has the highest Gini-coefficient of all high-income countries (0.408 in 2004), whereas most European countries and Japan have a considerably lower Gini-coefficient (between 0.247 and 0.327; United Nations, 2004). Around 50 countries in the world—all low-income countries—have a more unequal distribution of income than the United States. Higher income inequality also breeds higher degrees of corruption (and vice versa). Income disparity in society is also strongly associated with the remunerations policies in leading companies. Research of Towers Perrin (see benefit database, www.towersperrin.com), shows that the income inequality within firms is particularly large in the United States, because of the remunerations earned at the top of companies. An average CEO in the United States earned around \$1.9 million in 2002, whereas in Thailand or China, CEOs earn on average 5% of that amount.

Working Poor

Poverty is often associated with unemployment or working in the informal sector or "shadow economy." *Working-poor* people are in fact working or looking for work in the formal sector (during at least 27 weeks per year in the United States), while earning an income below the poverty line. At the end of 2002, the number of working poor—defined as workers living on \$1 or less a day—was assessed at 550 million. Defining the poverty line at \$2 a day, the number of working poor increases to 1.4 billion people (2006 figures). Working poor represent a substantial group of the workers in developed countries as well. In 2002, the U.S. Department of Labor registered about 7.4 million working-poor people, representing around 5% of the workforce (U.S. Department of Labor & U.S. Bureau of Labor Statistics, 2005). In Europe, using a different definition, it has been estimated that 8% of employees in the European Union (EU) can be considered working poor (European Industrial Observatory, www.eio.eurofound).

The Geneology of an Issue: Poverty Alleviation as a Business Responsibility

Issues are first and foremost societal matters that lack unambiguous legislation (Van Tulder, 2006). Prime examples of the existence of such a “regulatory gap” include the sinking of Shell’s Brent Spar storage tank in the Atlantic Ocean in the summer of 1995 and the question of whether or not to do business in Burma. There was no international legislation that prohibited the sinking of the Brent Spar nor was there a ban on doing business in Burma. Nevertheless, the issue materialized due to pressure by critical nongovernmental organizations (NGOs), which forced these firms to take action. The issue of “poverty” is more complex, because it cannot be “regulated away” by national legislation. In ethical terms, poverty alleviation represents a “positive duty” rather than a “negative duty” for corporations. Even the issue of minimum wages proved very difficult to regulate. Consequently, there is no government that requires firms to address poverty (or solve it) in any comparable manner as has been the case with environmental or human rights issues.

Issues, however, can also appear because of *expectational gaps* (Wartick & Mahon, 1994). Expectational gaps are created when stakeholders hold different views on what acceptable corporate conduct is and/or should be with regard to societal issues. It concerns the disjunction between the factual and actual interpretation (what is) and the desired interpretation (what should be). In this way, the birth of an issue marks a gap between being and belonging, between perceptions of corporate conduct or performance, and expectations of what it should be. So even if there is no real problem, an issue will develop once it is perceived as such. Poverty became a real issue for firms in the early 21st century in particular due to expectational gaps with a specific number of stakeholders. Such issues generally follow a life cycle: from birth and growth toward development, maturity, and settlement. What occasions have developed because of the poverty-as-business-challenge/responsibility issue?

Birth and Growth: Triggering Incidents and Growing Societal Discontent

The growth of an issue occurs specifically when those first in command fail to address an issue adequately. The discontent grows even further when the issue can be clearly defined, is given a popular name, and the media latches onto unsuspecting protagonists. Examples include “Frankenstein Food” (introduced by Prince Charles) and global warming (supported by Nobel Prize Laureates and former vice president Gore). The transition into this phase is often initiated by a *triggering event*, usually organized by a visible and legitimate stakeholder. For the poverty-as-business-challenge issue, important triggering events became meetings of international organizations like the World Trade Organization, the World Bank, and the G8 Summits. Triggering concepts

became “The Millennium Development Goals (MDGs),” “decent work,” “outsourcing,” the “Wal-Mart effect,” and the “race to the bottom.”

Absolute Poverty

The issue of *absolute poverty* has been on the agenda of governments for most of the post-war period. But renewed attention was triggered in the year 2000, when 189 countries formulated eight MDGs and specified halving poverty—defined as those people living on less than \$1 a day—by the year 2015 as their prime goal (MDG1). Perhaps more importantly, an instrumental goal (MDG8) was formulated, in which partnerships with private corporations and a good business climate were considered vital to achieve sustainable development. The growing attention for the involvement of the business sector in the eradication of poverty was also picked up by multilateral organizations such as the World Bank and the IMF. They started to stress the importance of a favorable climate for doing business and the related importance of good governance for development. The intellectual foundation for this strategy was based on the research of Hernando de Soto (2000) who argued that important causes of poverty have been bureaucratic barriers and a lack of property rights—associated with a lack of access to credit—that prevent poor people from setting up their own businesses.

The issue of quickly achieving (some) poverty reduction has since been kept on the agenda due to a variety of NGO campaigns targeting international government meetings. A good example of the way in which this mechanism works is provided by the G8 Summit in July 2005 in Gleneagles (Scotland). This occasion triggered the “make poverty history” campaign. In a short influential clip, well-known film stars and musicians were able to present the issue probingly by snapping their fingers every three seconds with the text: “A child dies completely unnecessarily as the result of extreme poverty every three seconds” (Make Poverty History, 2007). The supporting book *The End of Poverty* by MDG architect Jeffrey Sachs (2005)—with a foreword by singer and entrepreneurial activist Bono—highlights the alliance of scholars and activists to keep the issue on the top of the agenda.

Relative Poverty and the Working Poor

The issue of *working poor and relative poverty* has been set on the agenda by trade unions since the beginning of the industrial revolution. In many countries, this issue became regulated through the institution of minimum wages—in particular in Europe where trade unions have been better organized and institutionalized. In Anglo-Saxon countries, a (decent) minimum wage has been much less obvious for fear of disturbing the smooth functioning of labor markets. In most developing countries, the issue is still in its infancy. With the increasing integration of developing countries into the value chains of western companies since

the fall of the Berlin Wall in 1989 and the start of the era of globalization (two clear triggering events), the issue received renewed attention in particular by western trade unions. The most important allegation has been that a “race to the bottom” would materialize in which developing countries—but even developed countries—would start to relax labor regulation, and lower wages and taxes to attract multinational enterprises. The flip side of this statement has been that MNEs were accused of actively stimulating such a race by playing governments against one another in a search for the weakest possible regulation. The jury is still out as to whether this phenomenon is actually happening. The concept of a race to the bottom triggered greater attention for the issue of working poor (as well as for poor labor conditions).

As a consequence, the International Labor Office (ILO) intensified its campaign for decent wages. The question of decent wage levels and fair labor remuneration practices had always been at the center of the ILO’s actions. Already its original Constitution (1919) referred to the “provision of an adequate living wage” as one of the most urgently required reforms. However, the ILO conventions are notorious for their lack of ratification by member states. The concept of decent work or living wage triggered attention when western firms announced plans to relocate, outsource, or offshore facilities to low-wage developing countries. Since the end of the 1990s, many elections in developed countries have had the outsourcing/off-shoring issue as a core point of dispute.

“Fair labor” and “fair trade” movements targeted in particular the issue of working poor as a result of the unfair operation of the international trading system and the (perceived) negative consequences of the inclusion of workers in the international supply chains of multinationals. The anti-Nike campaign in the 1990s on the use of child labor was followed by the “clean clothes” campaign and a large variety of “stop child labor” campaigns.

Finally, the struggle for decent wages and the problems associated with working poor received a new corporate icon by the actions against Wal-Mart, the world’s biggest retailer and private employer. It was claimed that Wal-Mart sales clerks are paid below the federal poverty lines. The anti-Wal-Mart campaign “the high cost of low price” suggested that Wal-Mart employees also make intensive use of social security. Consequently, the issue of working poor received a name: the “Wal-Mart effect” (see for instance *Business Week*, February 6, 2005). Discussing the challenges of the Wal-Mart effect has become part of a scientific debate that builds partly on the ideas of the sociologist Ritzer in the early 1990s who talked about the “McDonaldization of society” (Ritzer, 1993). In both cases, a corporate icon triggers an issue. The Wal-Mart effect adds to this sociological perspective the economic danger of deflation in which lower wages and associated poverty lead to insufficient purchasing power and ultimately a negative growth spiral for the whole economy.

Development and Maturity: Measurement and Implementation

An issue enters the development phase when important stakeholders, individually or collectively, demand concrete changes to corporate policies and scholars develop models, approaches, and strategies that can solve the issue. In the mature or settlement phase, the issue is addressed by concrete strategies, new legislation and the like, which implies that the expectational gap gets bridged. If corporations do not develop credible strategies in this phase, the issue remains controversial—depending on the relative strength of the stakeholders and on the extent to which “issue fatigue” can also appear. The triggering events precipitated a large number of initiatives, some of which already existed long before the actual events appeared.

Measuring the MDGs

The concrete aims of the MDGs stimulated a number of organizations to try to measure the concrete contributions of corporations to achieving these goals. The contribution of the private sector to MDG1 was first identified by the UN Millennium Project (2005) itself as (a) increasing productivity, (b) creating jobs, (c) paying taxes, and (d) the supply of necessary goods for reasonable prices. The Global Reporting Initiative (GRI, 2004) additionally tried to link the core activities of businesses to the MDGs in the form of concrete reporting guidelines. GRI considered (a) creating affordable products, (b) building local linkages, and (c) creating employment opportunities as key indicators of MDG1. In particular, measuring the creation of jobs in the formal sector is considered critical in escaping the poverty trap. It was also proposed—but not implemented—to look at employment and job creation in distressed or disadvantaged regions to make this indicator more specifically useful for MDG1. Measuring the direct contribution to poverty alleviation itself, however, proved too difficult and too politically sensitive. The concept of poverty was deemed too multifaceted and too complex. GRI also wanted to avoid the introduction of a misleading measure like the \$1-a-day measure of poverty. Instead, the 2006 update of the GRI guidelines (G3) chose for a set of more general social and economic indicators on working conditions. Another measurement project was pioneered by the Dutch Sustainability Research Organization (DSR, 2007). First applied to the ABN AMRO bank and later also to Philips, Akzo Nobel, BHP Billiton, and TNT, the project identified two indicators particularly relevant for MDG1: (a) community development (local entrepreneurship, the provision of essential products and services) and (b) the provision of employment and living wages (through local recruitment, living wages, the right to organize, and the attention to vulnerable groups). The exercise primarily measures intentions rather than performance. It is planned to make this MDG Scan available on the Internet.

Labeling

Labeling enables a company or a group of companies to communicate its commitment to society and provide consumers with information on the quality and contents of products. Especially fair trade labels aim at communicating the corporate approach to poverty alleviation. The first “fair trade” label was introduced in the late 1980s in the Netherlands. The issue of labeling as a way to deal with poverty picked up steam since 2002 when Tesco, the United Kingdom’s largest retailer started selling fair trade bananas. The label serves as an “independent guarantee that disadvantaged producers in the developing world are getting a better deal” (i.e., a fair price). The fair trade movement thus aims at poverty alleviation through the fairer operation of international markets. But it remains exceptionally difficult to address a complicated CSR problem by means of a label. Consumers do not always convey the message correctly and there is hardly any internationally coordinated accreditation of labels. The market penetration of fair trade labels is therefore still below 5% in most product markets. A vital problem with increasing the effectiveness of labels is how to coordinate and monitor them. Active firms are inclined to adopt their own label as a unique selling point toward customers, but coordination and standardization (for instance through the Fair Trade Foundation) is often required to make the label into an actually effective poverty alleviation strategy.

Codes of Conduct

Codes of conduct can help corporations level the playing field and promote standards that can overcome the “regulatory gap.” A cascade of codes has developed, some of which refer to the issue of relative poverty and the working poor, through provision on labor conditions. But not many dealt directly with poverty alleviation (Kolk, Van Tulder, & Westdijk, 2006). Industry codes that focused on labor conditions were introduced, for instance, in toys (1995), apparel (1997), sporting goods (1997), fertilizers (1990, 2002), iron and steel (1992, 2002), cyanide (2000), mining and metals (2000), and coffee (2004). Also coalitions (or networks) consisting of corporations, governments, and NGOs started formulating standards, declarations, or guidelines. Particularly relevant for poverty alleviation have been the Ethical Trading Initiative (ETI) developed in 1998 (Ethical Trading Initiative, 2007) and the Fair Labor Association also created in 1998 (Fair Labor Association, 2007). In particular, the ETI Base Code tried to apply a multidimensional definition of well-being and poverty for instance by referring to a “living wage” and “no excessive working hours” (Institute of Development Studies, 2006).

Codes of conduct proposed by international NGOs generally include much stricter, specific, inclusive, and measurable criteria than company codes. International NGOs also place high value on external monitoring and

verification, as well as on clear sanctions in the event of failure to comply with the codes. By contrast, research on the content of codes of conduct (Kolk & Van Tulder, 2005) shows that companies favor *internal* monitoring of compliance with the code. Hence, NGOs keep questioning the *likelihood of compliance* with codes—the probability that companies will conform to their codes of conduct and behave responsibly. The content of most international codes or guidelines is still relatively weak. They are rarely monitored objectively for compliance, contain often only a few verifiable criteria, and tend to lack a thoroughly worked-out objective. For a large part, this can be attributed to the nature of issues like poverty that are often too complex to capture in codes.

Bottom of the Pyramid (BOP)

Since 2002, a number of business scholars started to stress the opportunities in doing business with the poor. In particular, the “bottom-of-the-pyramid (BOP)” approach (Prahalad & Hart, 2002) has become popular. In the words of Prahalad (2005), it should be possible to “eradicate poverty through profits.” The fortune to be gained at the BOP (Prahalad & Hart, 2002; Prahalad, 2005) referred to the 4 billion people who live on a per capita income below US\$1,500 (PPP). Combined, these people represent a “multitrillion dollar market” that outsizes industrialized countries—certainly for basic commodities such as food and clothing.

The BOP thesis presents a compelling business case for poverty-oriented strategies, but not many contributions have yet examined specific strategies for actually reaching that bottom. Since its inception, the number of critics has also mounted. In case multinational enterprises provide complementary job opportunities and create new markets for cheap products that did not exist (such as mobile phones, for instance), the BOP strategy works in alleviating poverty. But part of the market at the bottom of the pyramid is in practice already served by local firms and the informal economy. Multinationals can crowd-out more local firms and local employment than they create. Finally, at the real bottom of the pyramid, the purchasing power of the population is much less attractive (and the transaction cost to reach considerably higher); so in practice the BOP strategy has already been redrafted into a “base-of-the-pyramid” strategy—a far more modest approach than the original claim.

Therefore, there are basically two types of BOP strategies: a narrow BOP strategy that only focuses on the market opportunities and a broad BOP strategy that takes the wider repercussions and the net effects of the strategy into consideration. The latter also requires that critical NGOs be involved in evaluations of the strategy. A good example of a broad BOP approach is provided by the learning partnership of Oxfam/Novib and Unilever. In a case study of Unilever Indonesia, they explored the link between international

business and poverty reduction (Clay, 2005). They were unable to reach any conclusions, however.

Microcredits

Microcredits provide an entrepreneurial way out of poverty. The micro-credit movement started in Bangladesh and India in the 1980s and received global recognition in the 21st century—with the UN declaring 2005 “Microcredit year” and the 2006 Nobel Peace Prize awarded to Mohammed Yunus, founder of the Grameen Bank. Micro-credits not only provide cheap capital to poor people, but also give high yields for the banks involved. In 2006, around 125 million people were involved in micro-credit schemes. But the microcredit movement developed largely outside of the mainstream (multinational) banking system and was part of local (small) private-sector development initiatives. In case big western firms take up the provision of microcredits, two strategies can be distinguished: microcredits as a relatively marginal activity (managed for instance by the corporate philanthropy department) and microcredits as a core business activity (with substantial volumes). The latter has not really materialized so far.

Business Approaches Toward Poverty

Poverty eradication as a business challenge is still in the approximate development phase of its life cycle. The issue is far from being mature, let alone resolved. Triggering events have resulted in relatively concrete aims and goals. New concepts have been developed that structure the debate, but the issues are not yet resolved, let alone clearly addressed. New concepts are not undisputed, the operationalizations are not always clear and are not well coordinated, whilst the relationship between business strategies and the resolution of the issue at hand are not yet clear as well. There is abundant room for “PR” activities of firms in which a concept (like microcredits or the BOP) can be embraced only to ward off critical stakeholders. The area is relatively new for firms, stakeholders, and researchers alike. Given this degree of uncertainty, what concrete strategies can firms develop?

This is the area of corporate social responsibility (CSR). But the catch-all category of CSR in fact obscures important strategic variability and contextualization. The contribution of CSR strategies to align the interests of the poor depends on the circumstances and the concrete elaborations of business strategies in developing countries (Blowfield, 2005). While a more advanced categorization could be made, for the purpose of this chapter, we suggest four approaches with different procedural attributes in which the very CSR abbreviation also has four different meanings: inactive, reactive, active, and pro/interactive (cf. Preston & Post, 1975; Van Tulder, 2006). The continuum of CSR business strategies is conceptually related to the basic distinction in conventional moral theory between what is required and what is desired, or between the “morality of duty” and the

“morality of aspiration” (Michaelson, 2006). Table 10.1 summarizes the most important characteristics of these four approaches to CSR and suggests some operationalizations of indicators of poverty strategies.

The *inactive* approach reflects Friedman’s classical notion that the only responsibility companies (can) have is to generate profits, which in turn generates jobs and societal wealth and can therefore be considered a form of CSR. This is a fundamentally inward-looking (inside-in) business perspective, aimed at efficiency in the immediate market environment. Entrepreneurs are particularly concerned with doing things right. Good business from this perspective equals operational excellence. CSR thus amounts to “corporate *self*-responsibility.” This narrow approach to CSR requires no explicit strategy toward poverty alleviation. It aims at the prime fiduciary duties of managers vis-à-vis the owners of the corporation, which could imply affordable products and job/employment creation, but only as an indirect by-product of a strategy aimed at profit maximization. When faced with the trade-off between job creation and efficiency enhancement (or shareholder value maximization), these firms will choose the latter. The company is relatively indifferent toward the issue of poverty.

The *reactive* approach shares a focus on efficiency but with particular attention to not making any mistakes (“don’t do anything wrong”). This requires an outside-in orientation. CSR translates into corporate social *responsiveness*. Corporate philanthropy is the modern expression of the charity principle and a practical manifestation of social responsiveness. In this approach, the motivation for CSR is primarily grounded in “negative duties” where firms are compelled to conform to informal, stakeholder-defined norms of appropriate behavior (Maignan & Ralston, 2002). The concept of conditional morality in the sense that managers only “react” when competitors do the same is also consistent with this approach. This type of firm deals with the issue of poverty primarily when confronted with actions of critical stakeholders, for instance in the area of the working poor and in an effort to limit the negative influences of firm strategies on poverty or restore corporate legitimacy (Lodge & Wilson, 2006). Primarily in reaction to concrete triggering events—and often not spontaneously—these companies legitimize their presence in developing countries or in socially deprived regions by arguing that they potentially transfer technology, contribute to economic growth, and create local job opportunities, but without specifying it in concrete terms or taking up direct responsibility. The company wants to reduce its vulnerability about poverty. Poverty (the bottom of the pyramid) becomes an opportunity when the growth possibilities in the existing markets are declining. The bottom of the pyramid is primarily the base of the pyramid. Support for guidelines like the UN’s Global Compact—that is neither specific nor requires high compliance likelihood—is the typical approach of a reactive CSR strategy (see Kolk & Van Tulder, 2005).

An *active* approach to CSR is explicitly inspired by ethical values and virtues (or positive duties). Such entrepre-

Table 10.1 Four CSR Approaches

<i>Inactive</i>	<i>Reactive</i>	<i>Active</i>	<i>Proactive</i>
<p>“Corporate Self Responsibility” Legal compliance and utilitarian motives</p> <p>Inside-in doings things right doing well</p>	<p>“Corporate Social Responsiveness” Moral (negative) duty compliance</p> <p>Outside-in don’t do things wrong doing well and doing good</p>	<p>“Corporate Social Responsibility” Choice for responsibility and integrity; virtue</p> <p>Inside-out doing the right things doing good</p>	<p>“Corporate Societal Responsibility” Choice for interactive responsibility; discourse ethics</p> <p>Inside-out/outside-in doing the right things right doing well by doing good</p>
<i>Poverty approach</i>			
<ul style="list-style-type: none"> • No explicit statements on poverty • We create jobs and employment (as by-product of profit maximization) • Payment of taxes • Affordable products • No code of conduct and/or low compliance likelihood • No support for labels 	<ul style="list-style-type: none"> • Contribution to economic growth • Narrow BOP: mention of market changes in poor regions • Creation of local employment used defensively • Microcredits as (small) part of philanthropy • Transfer of technology and knowledge mentioned, but not specified • Vague code and low specificity as regards poverty • Support for Global compact and modest support for GRI • Dialogue vaguely mentioned 	<ul style="list-style-type: none"> • Explicit statement on moral unacceptability of poverty • Definition of decent wage • Broad BOP: explicit view on how this strategy addresses poverty alleviation (net effect) • Creation of local employment opportunities at suppliers • Microcredits as part of business strategy • Transfer of technology and knowledge is specified • Explicit support for MDG1 • Wholehearted support for GRI • Philanthropy is aimed at poverty in general • Specific code and/or labelling on poverty and/or fair trade • Specific 	<ul style="list-style-type: none"> • Strategic statement on poverty • Explicit support for all MDGs (including #8 on partnerships) • Active partnerships with NGOs and international organizations on poverty • Very explicit code and support of highest possible transparency (GRI) • Transfer of technology and knowledge is specified and discussed for its impact on poverty alleviation • Codes and labeling activities part of a contract with third parties (high specificity and high compliance likelihood) • Dialogues as an explicit tool to raise strategic effectiveness



neers are strongly outward-oriented (inside-out) and they adopt a positive-duty approach. They are set on doing the right thing; CSR in this approach gets its most well-known connotation—that of corporate *social responsibility* (CSR). This type of firm has a moral judgment on the issue of poverty and tries to come up with a number of activities that are strategic (core activities) and/or complementary to its own corporate activities. For example, such firms can define what decent wages are and can come up with substantial philanthropy activities toward poverty alleviation in markets where it is not active. The reactive firm will primarily locate its philanthropy near its corporate activities (thus the growing attention for so-called strategic philanthropy). The active company accepts (partial) responsibility for the issue of poverty especially where it is directly related to its

own activities and responsibilities. Poverty (the bottom of the pyramid) is explicitly addressed as a morally unacceptable issue for which entrepreneurial solutions may exist. The (indirect) job creating effects of the company with its suppliers are also specified. In case this company embraces microcredits, it is not only seen as a regular market opportunity or a PR instrument, but also as a strategic means for reaching the real bottom of the pyramid for which concrete criteria should be developed to measure its effectiveness and create ethical legitimacy.

A *proactive* CSR approach materializes when an entrepreneur involves external stakeholders at the beginning of an issue’s lifecycle. This pro-active CSR approach is characterized by *interactive* business practices, where an inside-out and an outside-in orientation complement each other. In

moral philosophy, this approach has also been referred to as discourse ethics, where actors regularly meet in order to negotiate/talk over a number of norms to which everyone could agree (cf. Habermas, 1990)—doing the right things right (or doing well by doing good). This form of corporate *societal* responsibility (Andriof & McIntosh, 2001) shifts the issue of CSR from a largely instrumental and managerial approach to one aimed at managing strategic networks in which public and private parties have a role and firms actively strike partnerships with nongovernmental organizations. Firms that aim at a proactive poverty strategy are most open to the complex and interrelated causes of poverty and acknowledge that poverty can only be solved through partnerships and issue ownership of all societal stakeholders involved. This type of firm is also willing and able to see the problematic relationship between low wages and/or low prices with low economic growth, which could hamper a more structural approach to poverty. A possible legal elaboration has been provided by Lodge and Wilson (2006) who introduced the construct of a “World Development Corporation”—a UN-sponsored entity owned and managed by a number of MNEs with NGO support.

SPECIFIC IMPLEMENTATION: FROM FRONTRUNNER FIRMS TO MAINSTREAM BUSINESS STRATEGY?

In an earlier study, we explored the codes of conduct on poverty of a number of frontrunner MNEs (Kolk et al. 2006). Most of these firms were not (yet) very outspoken about poverty alleviation, whereas the compliance likelihood of their codes of conduct relevant for poverty alleviation remained rather limited. Companies tended to address only a few dimensions of poverty, in particular so-called content issues that were directly relevant to work conditions. Broader approaches that had the largest potential to help eradicate poverty such as local community development, training, and monitoring and relative poverty were hardly ever addressed. Although the approaches of frontrunner firms showed considerable divergence, on a sectoral level a higher level of resemblance could be observed. MNEs appear only willing to state active commitment if others in their sector do as well. We inferred that MNEs might fear that, because of their involvement in poverty alleviation, they might lose out to others that do not have a strong policy (and/or that pretend to be active but fail to enforce it). So, whereas pressure from civil society puts a “floor” (a minimum level that is expected) on CSR in a sector, at the same time, competitors—other MNEs in this sector—can also put a “ceiling” on CSR when it comes to being involved in alleviating poverty.

Factors that seem to shape the inclination of MNEs to show commitment to poverty issues are firstly size and product familiarity for large groups of consumers and their readiness to put societal pressure on companies. Next, the domestic origins, the home-country institutional context,

of MNEs seemed to play a considerable role. Compared to U.S. and Asian companies, European MNEs show a greater tendency to proactively approach poverty. Finally, firms with a spread of activities over developed as well as developing countries seem most prone to being involved in the development of poverty-alleviating policies. Other research on the CSR reporting strategies of *Fortune*'s 2004 Global 250 firms (KPMG, 2005) found that, compared with environmental issues, the coverage of social and economic issues and topics is far more superficial. Although social topics (core labor standards, working conditions, community involvement, and philanthropy) are discussed by almost two thirds of the companies, reporting performance remains sketchy. It was also found that especially European firms that release a sustainability report are active in reporting on their economic impact on the host (developing) economies in which they are operating (Fortanier & Kolk, 2007).

For this chapter, we went one step further and made a first inventory of the overall poverty-related strategies of the 100 largest *Fortune* Global firms from 2006. We applied the framework of Table 10.1 to each of these firms in order to classify their strategy. We analyzed codes of conduct, Web sites, and corporate sustainability reports of each of these firms. Half of the Global *Fortune* 100 list of 2006 comprises European firms, around one third comprises American firms, whereas one sixth is made up Asian firms. Around 58 of these corporations had undertaken some initiative on poverty. At least four firms (Citigroup, no. 14 on the list, Deutsche Bank, no. 48, Electricité de France, no. 68, and Deutsche Post, no. 75) explicitly communicated a moral statement that poverty is unacceptable. Some corporations acknowledge the issue of poverty, but link it primarily to economic growth—thus supporting the mainstream approach to poverty alleviation, which does not require an active corporate involvement. For instance, Matsushita Electric (no. 47 on the list) argues in its 2006 Global Corporate Citizenship report that “at present, the world has a large number of people living in poverty and needs a level of economic growth sufficient to raise their standards of living.” Other corporations express more explicit (active) concern over poverty and link it to their own corporate responsibilities. For instance BP (no. 4) in its 2005 sustainability report states that its “primary means of making a positive impact on poverty is through aligning our own operations with local people’s needs.” Petrobras (no. 86) states in its social and environmental report of 2005, “What motivates us is the ongoing quest to improve the quality of life in the communities in which we operate. Our initiatives are in areas such as job creation, income generation, combating poverty, and hunger.”

One out of five corporations is searching for partnerships with NGOs and international organizations on poverty. A similar percentage had also developed poverty-oriented programs in their philanthropy activities. The Shell (no. 3) foundation, for instance, aims to support sustainable solutions to social problems arising from the links between energy, poverty, and environment with a \$250 million endowment.

It issued a well-received report, “Enterprise Solutions to Poverty.” However, intentions and philanthropy activities do not necessarily reveal the implementation of concrete core strategies. So we considered in more detail to what extent the 100 largest firms in the world today are making their commitment to alleviate poverty more concrete. One out of ten firms on average—in particular American and Japanese firms—consider the provision of affordable products as an important contribution to poverty alleviation. One out of four firms on average (24 firms) identified the creation of local employment opportunities as an important way to reduce the extent of poverty; half of the firms with that opinion (12) further specified they reduce poverty by stimulating indirect employment at their suppliers. Decent wages, however, are only defined by four corporations.

Another way of concretizing an ambition is to link to international initiatives and codes. For instance, 43 of the 100 largest firms subscribed to the UN’s Global Compact in the 2000–2006 period (36 of which are European corporations). But the Global Compact only provides general and indirect reference to poverty, whilst it is very weak on implementation. Seventeen corporations have expressed general support for the MDGs. One quarter of the European firms, and less than 7% of the American and Asian firms, support the MDGs. A number of European firms have been very active in further operationalizing the MDGs for their business context. Firms like Royal Dutch Shell (no. 3) and ABN Amro (no. 82) have explicitly linked their sustainable reporting to each of the eight MDGs. In regard to poverty-related international codes and labeling initiatives, the most popular initiative up to now has been the Fair Trade label, which has been endorsed for a number of products in their product range by at least four international retailers. The Ethical Trading Initiative is supported by three corporations, two of which are American computer and office equipment producers. On average, however, most large companies still tend to favor their own labels and poverty-related codes, whilst not endorsing already existing codes or standards—such as the ILO standards.

Finally, we distinguished in this chapter two entrepreneurial approaches toward poverty alleviation—microcredits and the BOP—for which corporations can adopt a narrow and a broad strategy. In regard to microcredits, many firms have embraced the idea. Twenty-three firms from a wide variety of industries consider microcredits an interesting option as a complement to their main business strategy. For example, ExxonMobil has a number of partnership projects with U.S. AID on microfinance in areas related to its oil projects (Kazakhstan & Sakhalin in Asia, for example). The corporation presents its microfinance activities as “one of many ways ExxonMobil fosters education and increased opportunities for women...as part of

the company’s community investment initiative” (2005 Corporate Citizenship Report). An additional 9 of the 17 banks in the sample present microcredits as an interesting part for their general business strategy. The Dexia Group (no. 55), for example, asserts itself as one of the world leaders of the international financial market of microfinance, with total assets of around \$89 USD in 2005 (Sustainable Development Report, 2005). Other international banks have followed suit, making microcredits a mainstream instrument. The actual volume of the efforts, however, remains rather limited, which serves as an illustration of the relative difficulty with which this market can be developed. Microcredits, therefore, are still a relatively marginal activity for most banks.

In regard to the BOP, leading firms are still rather ambiguous. Eight of the 100 largest firms have mentioned the BOP as a possibility, but have primarily embraced it as yet another market change to sell products in a poor region. Only two firms (Citigroup, no. 14; Nestle, no. 53) have argued in favor of a more broad BOP strategy in which they develop an explicit view on how this strategy actually addresses poverty alleviation because of direct and indirect effects.

Table 10.2 summarizes the first general results of the previous exercise. It shows the relative position in terms of the CSR approach to poverty of the 100 largest Global *Fortune* corporations in 2006. Forty-three of these firms could be positioned in one of the four CSR categories, 52 firms combined two (adjacent) CSR categories, whilst 4 spread their activities over three categories.

Around two thirds of the corporations have adopted an inactive and/or a reactive strategy toward poverty. The four corporations that were classified proactive have still adopted rather modest strategies in this area, whilst also embracing reactive and active traits. No corporation can be

Table 10.2 Poverty Approaches of *Fortune* 100 Corporations, 2006
[% of row category; overlap possible]

	<i>Inactive</i>	<i>Reactive</i>	<i>Active</i>	<i>Proactive</i>
Total (N=100)	63%	55%	33%	4%
Europe (N=52)	48%	67%	52%	8%
USA (N=30)	77%	47%	13%	0%
Asia (N=15)	93%	27%	7%	0%
Developing (N=3)	33%	66%	33%	0%
Petroleum Refining (N=14)	50%	71%	36%	14%
Banks (N=17)	59%	47%	47%	6%
Insurance (N=13)	62%	39%	31%	0%
Electronics, computers, telecom (N=15)	74%	53%	27%	0%
Motor vehicles and parts (N=13)	69%	46%	23%	0%
Retailers, general merchandise, wholesalers (N=12)	75%	42%	17%	0%

classified as wholly proactive, whereas 40% of the corporations can indeed be classified as completely inactive.

Typical (pro)active strategies are primarily embraced by European corporations, whereas the typically inactive strategy is embraced by Asian corporations. American corporations are somewhere in between, however, with a strong inclination toward the adoption of inactive and reactive strategies. This involves a “buffering attitude” toward critical NGOs that address the issue of poverty. A good example is provided by Wal-Mart (no. 2), which in response to the allegations contained in the Wal-Mart effect first created a public relations “war room” in 2005 and, next, sponsored a “working Wal-Mart families” site that stresses the importance of the jobs provided by Wal-Mart for the local community. In its other communications, Wal-Mart stresses that it offers affordable products to customers—with the suggestion, although not specified, that this might substitute for the weak buying power of its employees. “If we can go without something to save money, we do. It’s the cornerstone of our culture to pass on our saving. Every penny we save is a penny in our customer’s pocket” (“Wal-Mart stores” 2007). Most Wal-Mart’s actions are reactive, with no effort to work on the issue of poverty in collaboration with critical societal groups.

Table 10.2 also specifies the strategic scores for a number of industries. Motor vehicles, electronics, and retailers are, on average, the least active in poverty alleviation. In these sectors, the internal sector dynamics has put a ceiling on individual activities toward poverty alleviation. Active and proactive attitudes toward the issue of poverty involve bridging strategies. Table 10.2 shows that these bridging strategies are more easily adopted in Europe, especially by the banking and petroleum-refining industry. Regulation in Europe as well as with these specific industries has created a floor on which more active poverty alleviation strategies have been required (Kolk et al. 2006).

CONCLUSION

Although most entrepreneurs and corporations do not yet see the alleviation of global poverty as a strategic priority (Singer, 2006), this chapter has shown that the issue has steadily climbed up the corporate strategy ladder. The bottleneck of making poverty reduction a real strategic priority in which firms adopt active or proactive strategies has to do less with the complexity of the issue and more with the regulatory framework in which firms are operating, as well as their conception of “poverty” that can be addressed by their strategies. Narrow approaches for entrepreneurial solutions to poverty prevail. It is not easy to change the strategic orientation of a big corporation. But the narrow approach also receives more attention because broader approaches have not yet been elaborated and operationalized into scientifically sound models and generally accepted principles and guidelines.

This chapter showed that a limited number of corporations have adopted guidelines and labeling relevant for

addressing poverty. Poverty is a global problem and it is therefore logical that general guidelines be developed. The MDGs have triggered the attention of an increasing number of firms, but a clear bottleneck remains the difficulty of operationalizing the MDGs in clear measurement, including reporting standards such as GRI.

Finally, MNEs can also be held back by sector issues and dynamics. Keeping the dialogue at the global level and treating all MNEs from different sectors the same way (as tried, for example in the United Nation’s Global Compact efforts) and focusing on compliance with one and the same standard will (and does) not work. Different sectors face different problems and are at different stages when it comes to alleviating poverty. So a way forward in this regard might therefore be not to approach single, individual (often high-profile) MNEs, as some NGOs and international organizations tend to do, but to create an enabling environment that facilitates dialogue and subsequent action at the sector level. Complementary, GRI and other international organizations might develop reporting guidelines and specific poverty alleviation indicators per sector.

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ORGANIZATIONAL CRISIS MANAGEMENT IN THE POST-9/11 BUSINESS EPOCH

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The financial scandals of the new millennium, as well as stories of how businesses suffered in the devastating aftermaths of the September 11, 2001, terrorist attacks and the Gulf Coast hurricanes, have created a renewed interest in organizational crises and their management. Images of the crooked “E” sign being removed from Enron’s headquarters in Houston, Jimmy Dunne’s determined face on CNBC when he announced that Sandler O’Neill and Partners would remain in business despite the World Trade Center attacks, and the flooded businesses in the French Quarter of New Orleans have become poignant reminders that powerful events can overwhelm the resources of today’s organizations. They can cause loss of life, loss of physical assets, loss of employment, loss of revenues, and loss of shareholder equity. (See Table 11.1 for some recent examples of crises.)

In a survey of 114 Fortune 1,000 companies, Ian Mitroff, Terry Pauchant, and Paul Shrivastava (1989) estimated that large U.S. corporations face 10 crises a year. The frequency of crises is increasing because organizations operating in domestic and international markets have become interconnected so that negative events affecting one company can have a domino effect on its suppliers, creditors, and distributors; business environments are becoming more and more turbulent; and complex, high-risk technologies that can be potentially harmful, are being used. The capabilities of organizations to effectively handle a crisis, unfortunately, have not kept up with the new realities. In a longitudinal study by the Center for Crisis Management at the University of Southern California, Ian Mitroff and Murat Alpaslan

(2003) revealed that three out of four Fortune 500 corporations are prepared to handle only the types of calamities that they have encountered in the past.

The purpose of this chapter is to survey the literature on organizational crisis and crisis management. It offers a definition of organizational crisis, reviews conceptual models of organizational crisis, and describes different types of crises affecting businesses. It summarizes several approaches to crisis management and suggests that managers in the future may be best served by new strategies which require broad, abstract thinking as well as specialized, technical knowledge; continual assessment of external threats and internal vulnerabilities; the creation of a crisis center; mobilization of experts with multiple and diverse perspectives from inside and outside the organization; and joint problem solving with community leaders and government officials.

A DEFINITION OF ORGANIZATIONAL CRISIS

Organizational crisis is a difficult concept to define. Consensus among researchers on a definition has been illusive for a number of reasons. First, contributions to crisis theory have been made by researchers coming from multiple disciplines. In psychology, for example, a crisis is defined as “an acute disruption of psychological homeostasis in which one’s usual coping mechanisms fail and there exists evidence of distress and functional impairment” (Yeager & Roberts, 2003, p. 6). In political science, a crisis consists

Table 11.1 Examples of Recent Organizational Crises**Organization:** Tulane University

Precipitating Event: Hurricane Katrina hit the New Orleans area on August 27, 2005. The hurricane killed 1,323 individuals and displaced over 400,000 people. It shut down 71,000 businesses, with some of them never to reopen. Property damages reached \$25 billion.

Impact: Tulane University incurred structural damage of \$250 million and operating losses of \$100 million. Two thirds of its campus was flooded. It cancelled its Fall 2005 semester and deployed its students to 595 different campuses across the country. Moody's Investors Services predicted that the university could run out of cash by April 2006, if students did not return.

Predisaster Preparations: Tulane had an emergency plan that had been tested several times. It called for a campus wide evacuation in the event of a category 3, 4, or 5 storm. The plan did not, however, consider the possibility of catastrophic damage or the shutting down of facilities for an extended period of time. The plan called for several senior administrators to stay on campus to ride out the storm. This turned out to be a mistake. Administrators were stranded for four days without food, utilities, or means of communication.

Immediate Crisis Responses: Students, who had just arrived on campus to start a new semester, were evacuated ahead of time by buses and cars to a gym at Jackson State University in Mississippi. When power failed at the gym, they traveled to airports in Dallas and Atlanta. A recovery team of administrators was soon assembled in Houston. The team set up an emergency Web site to communicate with students and faculty. David Pilo, an alumnus and cofounder of Yahoo, donated manpower and Web-hosting resources. With the help of police officers, employees retrieved IT files from a downtown New Orleans building. Other universities agreed to accept Tulane students for one semester. Tulane kept their first semester tuition. A \$150 million loan was obtained to hire a firm to repair the damaged campus.

Intermediate Crisis Responses: Fund-raising activities began with the goal of \$25 million by June 2006. A cruise ship was rented for use as a dormitory. \$1.5 million was spent to charter a local school for the children of Tulane faculty. 243 full-time staff members were laid off.

Long-Term Strategic Changes: Tulane's president, Scott Cowen, assembled a planning board which included the president of John Hopkins University and consultants from PriceWaterhouseCoopers. The medical school was downsized (clinical work was discontinued; faculty and staff were cut by 40%). A decision was made to focus on undergraduate education (PhD programs in English, Law, Economics, and Social Work were eliminated). Several undergraduate Engineering majors (including civil and environmental engineering) were dropped. Eight of 16 athletic programs (including men's track, women's swimming, and men's cross-country) were cut.

Sources: Cowen (2006) and Reingold (2006)."

Organization: Sandler O'Neill & Partners

Precipitating Event: The September 11 terrorist attacks on the twin towers of the World Trade Center resulted in the death of

2,749 people; the destruction of the offices of over 430 businesses from 26 countries; and the demolition of 75 stores, restaurants, and service outlets in the underground mall. Total losses were expected to reach as much as \$90 billion.

Impact: Sandler O'Neill's headquarters were located on the 104th floor of the South Tower of the World Trade Center. It lost 66 out of its 171 employees including its cofounder and senior managing partner, Herman Sandler and investment-banking head, Chris Quackenbush. All of the firm's bond traders were killed (buying and selling bonds generated 40% of total revenues). Twenty out of 24 employees who worked on the equity desk were killed. The two employees who ran the syndicate desk were killed.

At the time of the attack, most employees felt that they would be safer remaining inside the building than trying to leave. They learned from a prior experience. Those who fled after the 1993 basement bombing of the World Trade Center were either engulfed in smoke in the staircases or stranded on the roof in the cold for hours.

Immediate Crisis Responses: Recovery efforts became the responsibility of James Dunne, the firm's sole surviving senior partner, who had been playing golf the day of the attacks. His first concern was with the families of the victims. He made sure that at least one of Sandler's 22 partners would attend each of the 66 funerals. He sent every family a check to cover the rest of the year's salary of the deceased employee. He set up a charity fund, hired grief counselors and extended the health care benefits for the families for five years. He arranged for year end bonuses to be paid to the victims' relatives.

Dunne created a new executive team through reappointments. The head of the bond desk became a managing partner responsible for day-to-day operations and the co-head of research became the new chief operating officer. He formed an outside advisory committee comprised of golfing friends who were also high-level investment bankers. Employees moved into temporary midtown office space donated by Bank of America. Although all records were destroyed, employees were able to get in touch with their clients because one staff member had all their telephone numbers memorized. Employees continued to close deals. Competitors offered their help. They provided employees with daily market information, taught them how to run a syndicate desk, and gave them commissions for joining them in deals.

Intermediate Crisis Responses: The firm began to hire new employees, adding 77 by September 2002. It was able to attract highly qualified individuals that other Wall Street firms had laid off. It rebuilt its information technology infrastructure. It moved into its own office space on a low floor at 919 Third Avenue in midtown Manhattan. In 2002, Sandler O'Neill rose to 8th place from 16th place in 2001 in a ranking of financial institutions.

Long-Term Strategic Changes: Sandler O'Neill continued to grow. It moved into new areas of research (foreign banking and the broker-dealer sector). It created a Community Reinvestment Act advisory division. It became more active in merger and acquisition advising.

Sources: Brooker (2002) and Etzel (2002).

(Continued)

Table 11.1 continued

Organization: Enron Corporation

Precipitating Events: Enron was a Houston-based natural gas and electricity company which was admired for its innovative use of the Internet to trade energy contracts. In 2000, it reported revenues of \$100 billion and it ranked number 7 in *Fortune Magazine's* Fortune 500. It was later revealed that for a period of at least five years, high-ranking Enron executives engaged in unethical accounting practices and the mismanagement of the firm's investments in water, telecommunications, and other utilities. Its accounting (in which it booked revenue upfront from long-term deals instead of spreading them over several years) and its off-balance sheet partnerships (in which it created special purpose entities which bought out partner stakes in joint ventures so that it could keep debt off its books) caused its profits to be overstated and its debts understated.

On August 14, 2001, Jeffrey Skilling, CEO, resigned for personal reasons. Kenneth Lay, chairman, replaced Skilling as CEO. On October 16, 2001, Enron announced a quarterly loss of \$638 million. Andrew Fastow, CFO, was fired. On November 8, 2001, Enron restated its financial results for the past four years (earnings declined by \$591 million; debt for 2000 increased by \$658 million). Its stock fell below \$1 per share. On December 2, 2001, Enron filed for bankruptcy.

Impact: In the aftermath of Enron's collapse, 2,400 other related business entities had to be closed; its workforce of 32,000 employees was dispersed; and \$1 billion in retirement funds held in Enron stock was lost. Arthur Anderson, a respected accounting and consulting firm, went out of business because of the role its accountants played in the shredding of Enron documents. Banks, including Citibank and JP Morgan

Chase, paid fines and settled lawsuits for their role in helping Enron finance deals. Lay, Skilling, Fastow, and other executives were convicted of fraud.

Attempts to Save the Company: The day after Skilling resigned as CEO, Sherron Watkins, an accountant and vice president, wrote a memo to Lay expressing her concerns that the company was about to implode because of its accounting practices. She advised him to hire independent legal and accounting experts to review the partnerships. Lay hired attorneys from Vinson & Elkins who had prepared the legal documents for the partnerships. Lay instructed them not to look too closely into the accounting. The lawyers concluded that the accounting was aggressive but not inappropriate. Negotiations began with Enron's competitor, Dynergy, who initially agreed to acquire Enron for \$8.9 billion. Dynergy backed out of the deal after its executives reviewed Enron's financial statements. Lay and other executives called high-ranking government officials, including Treasury secretary, Paul O'Neill, to see if they could convince banks to extend credit to them. They refused. Thousands of Enron employees were laid off. Enron sold its trading business to UBS Warburg.

Divestiture of Enron Businesses: In January 2002, Lay resigned as CEO under pressure from creditors. Enron hired Stephen Cooper, a turnaround specialist, as interim CEO. By looking at Enron's organization, businesses, customer base, and liquidity, Cooper felt it was a good restructuring candidate. Almost all of Enron's businesses were sold, including Mariner Energy Incorporated, Portland General Electric Company, its North American pipeline, and Prisma Energy, until a staff of 300 employees remained. Enron would become a shell company to handle litigation until it dissolved.

Sources: Fox (2003), Healy & Palepu (2003), and Lawrence (2003).

of a "breakpoint along the peace/war continuum of a state's relations with any other international actor" (Brecher & Wilkenfeld, 1982, pp. 382–383). In health care, a crisis is conceived of as a "transition for better or worse in the course of a disease, usually indicated by a marked change in the intensity of signs and symptoms" (Anderson, Anderson, & Glanze, 1998, p. 2371). Each researcher approaches the topic with his or her own units of analysis, lenses, tools, and biases.

Second, researchers are divided on whether a crisis is an objective or subjective phenomenon. Some argue that crises have objective properties. It is possible to identify the onslaught and start of a crisis; the chaotic midway phase in which employees suffer from shock, denial, and panic; and the resolution period when the crisis subsides and the organization recovers. A crisis also involves a tangible threat (e.g., a major food poisoning outbreak in a hotel chain; a steep drop in world coffee prices and its impact on small coffee-bean growers; a powerful hurricane which destroys the headquarters of a specialty insurance company). Other researchers argue that crises exist predominantly

in the minds of key decision makers. Leaders may create crises when they are nonexistent in order to further their own political agendas. When employees in an organization become complacent, managers try to create a sense of urgency by pointing to a threatening move of a competitor or by publicizing the results of an unfavorable customer-satisfaction survey. The underlying motive is to stimulate creative thinking and action. Managers may sometimes call a crisis a "minor blip" resulting from a "slight miscalculation" in order to avoid blame and to stay in power for as long as possible. Dawn Stover (2004), for example, reported that the National Aeronautics and Space Administration (NASA) labeled the breakup of the Space Shuttle Columbia a "mishap" because the term is blame-neutral, suggesting bad luck rather than human error.

Third, a few researchers have argued that the search for a common definition of organizational crisis is not only futile but also wrong. Ian Mitroff, Murat Alpaslan, and Sandy Green (2004) contended that crises are ill-structured problems and that any attempt to develop common terms violates the ambiguous and complex nature of such problems. Crises,

in other words, defy definition. The best managers can do is to use a systems model of scientific inquiry which involves threat sensing, crisis assessment, crisis capabilities, and damage containment. Once these activities have been completed, managers return to the threat sensing step to determine if the danger has passed. If not, the cycle is repeated.

Progress on a definition of crisis in the management literature was made in 1998. Christine Pearson and Judith Clair (1998) proposed that “an organizational crisis is a low-probability, high-impact event that threatens the viability of the organization and is characterized by ambiguity of cause, effect, and means of resolution, as well as by a belief that decisions must be made swiftly” (p. 59). It is a traumatic event which creates stress for members of the organization. Employees become defensive, deny the severity of the situation, and begin to question deeply held beliefs. Their ability to make sound decisions is impaired by cognitive biases. The crisis also leads to a breakdown of cultural norms and a lack of faith in leadership. The potential for a crisis is increased if an organization employs “high-risk” technologies (e.g., nuclear power). If one or two of the components fail, they interact in unexpected ways and cause the entire system to collapse. The result is a large-scale organizational disaster accompanied by the loss of life (e.g., Union Carbide’s chemical leak in Bhopal, India).

The advantage of Pearson and Clair’s (1998) work is that three of the most important perspectives on organizational crisis—the psychological approach, the sociopolitical approach, and the technological-structural approach—are integrated into one definition. A crisis has both an objective reality (i.e., it is a low-probability, high-impact event) and perceptual qualities (leaders must recognize that a crisis exists if they are to make any effort to respond). Many crises are preceded by warning signals that are ignored, minimized, or misread by decision makers. The lack of an appropriate response from senior managers only makes the impact of the crisis worse. The business will continue to lose customers and its financial performance will deteriorate even further.

The disadvantages associated with Pearson and Clair’s (1998) definition is that crises are occurring more and more frequently in the new millennium; therefore, the notion that a crisis is a “low-probability” event may be heading toward obsolescence. It is also important to clearly define “high-impact.” The appearance of anthrax-tainted mail in the United States in 2001 and the sniper attacks in the Washington, DC area in 2002 fortunately did not result in the loss of thousands of lives. They did, however, cause widespread panic and the disruption of daily routines. Finally, Pearson and Clair’s definition does not acknowledge that some crises are favorable for an organization. The Chinese symbol for crisis means danger and opportunity. A crisis, therefore, represents a significant turning point in an organization’s history. Some organizations will emerge successfully from the crisis while others will fail. The events that lead up to crises can come from the organization’s internal environment (e.g., human error, lax security, equip-

ment failures, unethical behaviors, power struggles) or from the organization’s external environment (e.g., natural disasters, stock market crashes, nationalization, terrorism). Table 11.2 shows the relationship between crisis and other similar terms.

CONCEPTUAL MODELS OF ORGANIZATIONAL CRISIS

Organizational crises have been studied from a life cycle perspective. Organizations, like individuals, pass through several developmental phases, in which movement from one phase to the next is triggered by a crisis and its successful resolution. Crises involving organizational growth and development are fairly predictable (and therefore manageable). Since organizations pass through well-known stages and face common issues, managers are advised to follow a set of specific strategies to help their businesses move forward. In “birth,” managers should create an organizational vision, acquire needed resources, and hire talented employees; in “growth,” managers need to maintain stakeholder confidence, acquire additional resources, and build commitment; in “maturity,” managers must pursue organizational change and revitalization; in “decline,” managers must cut costs and arrange for an orderly closing of the firm.

Larry Greiner (1972) developed a classic model of organizational crisis within the organizational life cycle literature. He argued that as an organization grows in size and age, it encounters several crises. A “crisis of leadership” emerges when an organization has grown too large and complex for the managing capabilities of its entrepreneurial founder. Professional managers must be hired to “pull the organization together” through formal communication, accounting policies, incentive programs, and quality-control systems. A “crisis of autonomy” develops as lower level managers seek greater freedom and responsibility while top managers are reluctant to give up power. Eventually, lower level managers and plant managers are allowed to make day-to-day operating decisions. Conflicts between plant managers who now want complete discretion in running their operations and top managers who attempt to centralize decision making erupt in “a crisis of control.” The firm can only move forward when plant managers are given the responsibility to run decentralized field units while a general headquarters is created so that top managers can plan, control, and review the performance of line managers. Finally, a “crisis of red tape” occurs when rigid bureaucratic structures inhibit problem solving and innovation. By creating cross-departmental teams, managers can encourage spontaneity and conflict resolution.

Gilbert Probst and Sebastian Raisch (2005) provide an example of the continued interest in organizational crises that occur as companies pass through different life cycle stages. In their study of 100 large organizational crises, they found that companies suffering from a premature aging syndrome (i.e., they grew old before their time) or from a burnout syndrome (i.e., they experienced permanent stress

Table 11.2 Organizational Crises and Similar Terms

<i>Term</i>	<i>Definition</i>	<i>Types</i>	<i>Examples</i>
Disasters	Events, observable in time and space, in which societies or their larger subunits (e.g., communities, regions) incur physical damages and losses and/or disruption of their routine functioning (Kreps, 1984).	Natural disasters include floods, storms, earthquakes, tsunamis, epidemics, and insect infestations. Techno-logical disasters include chemical spills, gas leaks, fires, and transport accidents.	On May 27, 1995, a powerful earthquake occurred on Sakhalin Island in far eastern Russia. At its epicenter in the Okhotsk sea, it measured 9.0 on the Richter Scale. The oil town of Neftegorsk was devastated. It was difficult to get aid to the victims because the nearest airport that could accommodate large cargo planes was 400 miles away. There were almost 2,000 fatalities (Porfiriev, 1996).
Environmental Jolts	Transient perturbations whose occurrences are hard to foresee and whose effects on organizations are disruptive and potentially inimical (Meyer, 1982).	None specified.	A physicians' strike affected voluntary hospitals in the San Francisco area on May 1, 1975 (Meyer, 1982).
Organizational Crises	Low-probability, high-impact events that threaten the viability of the organization and are characterized by ambiguity of cause, effect, and means of resolution, as well as by a belief that decisions must be made swiftly. Precipitating events can include natural disasters and industrial accidents (Pearson & Clair, 1998).	Criminal, information, reputation, economic, physical, and personnel crises (Mitroff & Alpaslan, 2003).	In September 1982, seven people in the Chicago area died after consuming cyanide-laced extra-strength Tylenol. Johnson & Johnson executives acted quickly and implemented a nationwide recall at a cost of \$100 million. The tampering most likely occurred outside of the company's facilities. The culprit was never caught.

due to system exhaustion) collapsed at the height of their success. They either grew too rapidly or too slowly, pursued either constant change or tentative change, had either overly powerful or extremely weak managers, and fostered either very competitive or very cooperative cultures. Success hinged on a company's ability to maintain, over the long term, an appropriate balance in growth rates, change processes, leadership styles, and cultures.

Crises often result from pressures emanating from an organization's external environment. Carolyn Smart, Walter Thompson, and Ilan Vertinsky (1978) segmented the external environment into those elements that are controllable by the actions or attributes of an organization (e.g., managers can conduct market research to learn how well products are being received and make product enhancements based on customer feedback) and those elements which cannot be controlled or influenced by the organization (e.g., political, legal, and social factors as well as competitor moves). A crisis occurs when there is a dramatic shift in the level or structure of the uncontrollable elements in a firm's external environment. The firm's ability to cope successfully with the crisis depends on its profile of organizational attributes. The profile includes (a) executive characteristics such as motives, leadership styles, cognitive abilities, and the pro-

pensity for risk taking; and (b) organizational characteristics, such as slack resources, and degrees of diversification, centralization, formalization, and routinization. In a follow-up study, Carolyn Smart and Ilan Vertinsky (1984) found that managers tended to defend the status quo and use standard operating procedures in response to a crisis in a routine environment. Managers used retrenchment strategies in response to crises in complex and turbulent environments because they felt they were unable to exert control over events. Managers adopted entrepreneurial strategies when faced with a crisis in a simple environment.

Irving Janis (1982) coined the phrase "groupthink" to refer to decision-making situations in which high-level government officials make low-quality and hasty foreign policy recommendations. They feel pressured to conform to the will of the leader and to maintain a sense of amiability and esprit de corps within their inner circle. Janis hypothesized that groups that are highly cohesive and insulate themselves from outside criticism tend to concur with the judgments of the leader and to support his or her plans. This leads to such symptoms as feelings of invulnerability, stereotyped views of the enemy, beliefs in the group's morality, and illusions of unanimity. When decision makers face a crisis or a provocative situational context characterized by high

Table 11.2 continued

<i>Term</i>	<i>Definition</i>	<i>Types</i>	<i>Examples</i>
Predictable Surprises	Events that should have been anticipated and prepared for. They represent failures of recognition, prioritization or mobilization on the part of leaders (Watkins & Bazerman, 2003).	Predictable surprises are those that surprise managers even though they had all the necessary information to anticipate the events. Unpredictable surprises are “bolts out of the blue” for which managers cannot be blamed.	On April 29, 1995, Greenpeace activists boarded an old oil storage platform, the Brent Spar, in the Northern Sea. Royal Dutch/Shell, the owner of the platform, planned to sink it because it was no longer needed. The activists hoped to prevent the move claiming that small amounts of low-level radioactive residues in the storage tanks would pollute the environment. Shell executives had information to predict what would happen. Its security advisors knew that activists might try to stop the dumping (Watkins & Bazerman, 2003).
Problems	A gap exists between what happened and what was desired or expected. The gap is significant enough to cause concern and to motivate the problem solver to close the gap.	<i>Tame</i> problems can be solved using traditional linear processes. <i>Wicked</i> problems are ill formulated. Information is confusing; there are many stakeholders with conflicting needs; and the ramifications for the entire system are unknown (Churchman, 1967).	Determining the features of a new car represent a wicked problem. By adding structural support in the doors, the car is safer from side impact but the added weight increases the cost of the frame, changes the fuel economy, and requires adjustment to the suspension and braking systems. Car safety is a marketing issue and has implications for pricing and demand. Critics will complain that the doors are heavy and hard to open. Passengers injured in side impact accidents might file lawsuits (Conklin & Weil, 1997).

stress, external threat, and short decision time, they use poor judgment. The result is a fiasco. President Kennedy’s 1963 decision to send 1,400 Cuban exiles to Cuba in an attempt to overthrow the Castro government was flawed because his advisory team failed to criticize the plan and miscalculated the strength and size of Castro’s forces. Groupthink has been used to explain everything from the demise of Enron to the loss of the Challenger Space Shuttle to NBC’s mistake in hiring Jay Leno to host *The Tonight Show*.

In a retrospective examination of his work, Charles Perrow (2004) discussed his finding that increasingly complex technologies, such as those in nuclear power plants and chemical refineries, are risky because their components can interact with one another in unanticipated ways and cause large-scale disasters. In order to understand a specific event, such as the failure of an operator to close a valve, it is necessary to examine the context of the failure, such as the mindset of the operator, which in turn is determined by training, experience, and corporate ideology. Crises are inevitable because a small problem can escalate quickly; in retrospect, no one knew that if component *x* failed, then component *y* would fail and together the two failures would start a fire and silence the alarm system. Perrow was so worried about advanced technologies that he advocated for

the abandonment of nuclear power and nuclear weapons.

Paul Shrivastava, Ian Mitroff, Danny Miller, and Anil Miglani (1988) take Perrow’s ideas a step further. They agree that complex technological systems are unreliable and that human error and inadequate resource allocations for safety can contribute to industrial crises. Regulatory failures, which allowed the hazardous technologies to enter communities which are ill equipped to handle them, are to blame as well. The infrastructure needed to successfully contain the damage and evacuate civilians is lacking. A crisis, therefore, is not just a problem for a single organization; it affects both private and public organizations and requires a coordinated strategy involving multiple stakeholders.

STRATEGIC AND TACTICAL RESPONSES TO CRISIS

There are many “dos” and “don’ts” of effective crisis management. In the short term, managers are warned not to ignore the early signs of the onset of a crisis, not to deceive or lie to employees or the public about major threats, and not to find scapegoats for the company’s problems. In

the long term, managers are told to develop contingency plans, to create crisis-management teams, and to implement training programs so that others can learn to recognize the beginnings of a crisis. Managers can easily become overwhelmed by the abundance of advice and the number of items on crisis-preparation checklists. Managers should realize that both the type of crisis facing the organization and the stage in the evolution of the crisis require different strategic and tactical responses. Strategies are comprehensive and have a long-term perspective; tactics consist of short-term, operational maneuvers. The more predictable crises can be handled by rescue specialists and technical experts while the less predictable crises should be managed by an organization's top executives since they require significant systemwide changes.

From a strategic point of view, managers are encouraged to adopt a general crisis orientation. They must be able to tolerate ambiguity, stay calm during difficult times, and fully mobilize an organization's resources. Managers must acknowledge that they will never have a detailed plan for every crisis that might occur. Their goal is to be prepared for a crisis and, when the time comes, to exhibit flexibility (i.e., to quickly recognize how an existing plan can be modified to meet a new threat) and resiliency (i.e., to evaluate the crisis, recover from initial shock, and utilize the organization's strengths and resources).

Bertrand Robert and Chris Lajtha (2002) developed a 10-point mental action plan for successful crisis management:

- Instead of viewing crises as negative or threatening events, managers should treat them as unusual opportunities for change in which a company's core values and management policies are tested and improved. Developing the skills and talents of employees to better handle crises via training can enhance their everyday performance and serve as a springboard for innovation and risk taking.
- A company's chief executive and top managers must be actively engaged in crisis management and agree to undergo crisis-management training themselves.
- Rigid operating procedures and lengthy policy manuals are useless during a crisis. Managers must regard crisis management as a continual process that requires frequent revisions and updating. It should be an integral part of a company's strategic management processes.
- Managers should assess the feasibility of setting up a crisis-management team or crisis-management center. It is unlikely that one manager will possess all the necessary leadership skills to handle a crisis.
- It is just as important to prepare for crises in advance and to learn from crises that have been successfully resolved as it is to help the organization through the acute phase of a crisis. Managers, however, are often unwilling to devote the necessary resources to the precrisis and postcrisis stages.
- During the precrisis stage, it is important to use lateral thinking and to pay attention to early warning signs no matter how marginal or peripheral they may seem.

- Crisis-management teams should not be afraid to violate organizational taboos. They should not be reprimanded for speaking freely, crossing hierarchical lines, or disagreeing with a culture value.
- Managers should rebuild lost confidence among customers, shareholders, suppliers, creditors, and employees. By acting competently, they can gain the respect and trust of key stakeholders and increase the likelihood that new decisions will be accepted and implemented.
- Employees need training to deal with the unexpected. Detailed simulations which incorporate the element of surprise are especially helpful.
- Organizations should be more open with one another and share information with the academic community (even regarding their weaknesses and mistakes) so that "best practices" in crisis management can be developed.

From a process point of view, crises have been analyzed according to several phases which have become associated with different strategies. Summarizing the literature, Sheldene Simola (2005) outlined the basic strategies that reduce the occurrence of and damage from organizational crises. In the precrisis stage, managers try to get a sense of what is going to happen so that they can prepare for a crisis in advance. Managers conduct an organizational risk assessment to identify areas of potential vulnerability and to take steps to reduce the risk. They create crisis-management teams and a crisis-management center equipped with emergency communications systems. A backup location is established in case the primary facility incurs damage. Managers write crisis plans, protect company data, hold practice drills, and simulate emergencies.

In the acute stage, a crisis has hit and some damage has occurred. Managers must work hard to control as much of the crisis as possible. They activate the crisis-management team; assess the causes and likely consequences of the crisis; contain the crisis physically (e.g., in the case of a chemical spill); send a message to the media that the situation is under control; and ensure the safety and health of employees, customers, and the general public.

The chronic crisis stage refers to cleanup, recovery, and healing. The crisis-resolution stage means that the organization is healthy again. Organizations must engage in learning and adopt flexible roles, cross-functional teams, open communications, and joint problem solving. Arjen Boin, Paul t'Hart, Eric Stern, and Bengt Sundelius (2005) believe that three different types of learning must occur. Experience-based learning means that past events and actions are remembered and studied; they provide guidelines regarding what will and what will not work in the future. Explanation-based learning requires the rational and scientific search for the causes of a crisis and its consequences; an extensive and meticulous audit will provide recommendations for the future. Competence/skill-based learning suggests that new talents, skills, and technologies are needed to deal effectively with a crisis.

From a practical point of view, not all crises are the same. Their origins, intensity, duration, and consequences are different. Crises resulting from natural disasters, industrial mishaps, malicious acts of violence, and internal ethical breakdowns are fundamentally different in nature and are best handled by different strategies. Securities fraud, white-collar crime, and accounting irregularities are associated with unethical behaviors which can be most damaging to a corporation's reputation. Such organizations face the daunting task of creating an ethical culture, putting into place safeguards to prevent future incidents, and restoring credibility with the public. Recommended remedies range from such commonplace practices as the operating of anonymous hotlines for whistleblowers to more drastic measures such as the hiring of chief risk officers to monitor the corporation as a whole and not just one department, and the expanding of democratic participation in corporate governance by inviting employees, community representatives, and other stakeholders to sit on boards of directors.

Defective products, environmental spills, and plant explosions also receive negative publicity and the scorn of members of society. They often indicate a disregard for safety and inadequate quality control procedures that resulted from a firm's cost-cutting efforts. These crises have significant consequences that can occur long after the triggering event. Crisis responses are initially aimed at technical damage control and rescue and relief of the injured. Later, victims need to be compensated; technological and organizational improvements need to be made. There is an increased focus on creating "high-reliability organizations" that demonstrate a commitment to safety, a culture of continuous learning and improvement, and redundancy in safety measures and personnel.

Powerful earthquakes and hurricanes are acts of nature that are best handled by operating early warning systems, fortifying infrastructures, implementing orderly evacuations, and rebuilding affected areas. Their patterns are somewhat predictable. Hurricanes, for example, usually occur during the summer months in the southern regions of the United States, tornadoes develop in the Midwest and South, and earthquakes affect California. They cause the most significant damage at the time and place of occurrence and their adverse effects diminish over time. One reason Hurricane Katrina was so devastating was because the model hurricane used to design the network of levees, floodwalls, storm gates, and pumps in New Orleans was too simplistic. Had a better hurricane-protection system been in place, the results would have been different—causing, perhaps, a case of "wet ankles" at the most (Schwartz, 2006).

Terrorism is an act of violence committed by individuals who seek to cause as much damage and loss of life as possible. The attacks on the World Trade Center and Pentagon highlighted the importance of information flow and interorganizational coordination before, during, and after a crisis (see Comfort, 2002). Different agencies had key pieces of information which in isolation from each other

appeared insignificant. An FBI agent in Phoenix, Arizona, for example, expressed concerns about suspicious individuals taking flying lessons. The British government knew that Zacarias Moussawi, under arrest in the United States for an immigration violation, had trained at an Al-Qaeda camp in Afghanistan. Communications between firemen and police officers on the scene broke down, resulting in a large number of fatalities among emergency and rescue personnel.

A major recommendation made by the architects of the 9/11 Commission Report was the need to share sensitive and time-critical information by creating trust between federal and nonfederal entities and by establishing secure communications mechanisms so that information did not fall into the wrong hands. Other tools are helpful in confronting terrorism. Sarah Murray (2004) discussed a matrix in which risks are assessed on the basis of the probability of an attack and an organization's resilience, and Matt Crenson (2004) wrote about a branch of abstract mathematics that may be able to help intelligence officers determine the most efficient way to disable a terrorist network (work in both these areas is being conducted by professors at MIT). Dean Alexander (2004) reported that some companies are investing in telecommunications networks and virtual offices, operating duplicate facilities and managing multiple personnel, and even providing counterterrorism training for executives and bodyguards.

THE FUTURE

A new generation of crises may be on the way. Arjen Boin and Patrick Lagadec (2000) compiled a list of the characteristics of modern crises. They can affect large populations; produce high economic costs; endure for a long period; trigger a snowball effect on other individuals, groups, and institutions; involve a large number of actors and organizations who jump into action; create communication snafus; and cause extreme uncertainty. "Unthinkable" or "inconceivable" events have the potential to wreck havoc not just on today's organizations but also on the social order in countries around the globe. Scenarios for radical weather changes, biological terrorism, and asteroid collisions have been developed by various agencies. Disaster checklists, evacuation policies, and media training are no longer sufficient. New forms of information sharing, problem solving, and cooperation among individuals, groups, organizations, and governments at all levels of society are warranted.

A Conference Board Report recently concluded that an avian flu pandemic would require global, holistic planning (Conference Board, 2006). Jeffrey Staples (2006) said that companies could experience absentee rates of between 15%–30% due to sickness, quarantines, travel restrictions, and fear of contagion. A good plan should focus on employee education, hygiene, evacuation, and minimization of supply chain disruptions. Scientists claim that an asteroid, 1950 DA, will travel dangerously close to the Earth and might crash into the Atlantic Ocean in the year 2880.

According to a report by Cynthia Wagner (2003), a simulation showed that it could cause a tsunami that might engulf the northeastern U.S. coast within two hours after impact. Improving the nation's knowledge base and applying expertise acquired in other large-scale disasters might aid in the planning for such an event.

Only a few organizations have begun to prepare for such rare occurrences. The software company, SAS Institute Inc., for example, has set up a Pandemic Task Force, with executives from its travel, security, health care, and risk functions, to develop plans for human-to-human transmissions of avian flu. In case of an outbreak, employees would be encouraged to work at home; if the payroll system became inaccessible there would be an alternative so that employees could still get paid (Reingold, 2006). Sun Microsystems has built an information technology infrastructure that will give its employees and customers access to information on their own desktop computers no matter where they are. It plans to broadcast reports in different languages on the spread of an infectious disease on its intranet radio station (Caruso, 2006). As these examples illustrate, companies need good crisis management plans. In their article, "Preparing for Evil," Ian Mitroff and Murat Alpaslan (2003) caution that it is no longer possible to fight "new wars with old strategies" (p. 109). The authors continue: "If they are to cope with abnormal crises, companies must see—as their enemies do—skyscrapers as vertical coffins and aircraft as flying bombs, ugly and horrifying though the prospect may be" (p. 11). It has become more important than ever to develop novel and comprehensive approaches to crisis management.

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INTEGRATING CORPORATE SOCIAL RESPONSIBILITY IN THE MANAGEMENT OF SUPPLY CHAINS

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The theme of corporate social responsibility (CSR) has a long history. In 1953, Howard R. Bowen (1953) claimed that companies have the obligation to pursue policies, make decisions, or follow lines of action that are desirable in terms of the objectives and values of the society. According to Archie B. Carroll (1979), CSR encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations. Dealing with economic responsibilities means to transact business and provide needed products and services in a market economy. Addressing legal responsibilities means to obey laws which represent a form of “codified ethics.” Facing ethical responsibilities means to transact business in a manner expected and viewed by society as being fair and reasonable, even though not legally required. Finally, coping with discretionary (or voluntary) responsibilities means to conduct activities which are more guided by business’ discretion

than by actual responsibility or expectation. In the 1980s, the stakeholder theory acquired a strong relevance in the academic world. According to Robert E. Freeman (1984), stakeholders are those persons or groups of persons who can affect and/or are affected by the activities a company carries out. The concept of stakeholders personalizes social responsibilities by delineating the specific groups or persons that should be considered when adopting a CSR orientation.

At the end of the 1980s, the expression “sustainable development” was introduced by the World Commission on Environment and Development to mean the economic, social, and environmental issues to take into account to foster permanent development in the world. During the 1990s, a link between the concepts of CSR and sustainable development began to be established. However, the notions of CSR and corporate sustainability have followed separate evolution paths and only recently have grown into convergence. In

the past, the theme of sustainability referred only to environmental issues whereas CSR referred to social aspects such as human rights. Nowadays, many scholars consider corporate sustainability and CSR as synonyms. An extensive part of the CSR literature also deals with environmental problems and issues, although a small but essential distinction should still be considered between the two themes: CSR relates to phenomena such as stakeholder dialogue and nonfinancial reporting, whereas corporate sustainability focuses on value creation and environmental management.

In this chapter, we adopt the definition of CSR provided by the Commission of the European Communities in the Green Paper “Promoting a European Framework for Corporate Social Responsibility,” according to which CSR is the voluntary integration by companies of social and environmental concerns in their business operations and in their interaction with stakeholders. Based on that definition and the above considerations, in this chapter the expression CSR is used to refer to the social, environmental, and economic attitudes, behaviors, and practices adopted by firms.

In the last years, the importance of CSR has rapidly increased. One of the motivations is the change in consumers’ attitudes. Research shows that many consumers prefer to purchase products from and invest in shares of those companies that care for the environment and maintain good citizenship behaviors. However, according to C. B. Bhattacharya and Sankar Sen (2004), there is a positive link between CSR and customers’ purchase behavior only when a variety of contingent conditions are satisfied: when the consumer supports the issue on which the company’s CSR efforts are focused; when there is a high fit between the company and the focus issue/cause; when the product itself is of high quality; and when the consumer is not asked to pay a premium for CSR. A positive relation exists between a company’s CSR actions and consumers’ loyalty, resilience, and word of mouth. For socially responsible firms the most relevant benefits are the enhancement of corporate image and the possibility to gain a focused and/or differentiated competitive advantage.

Despite the long history of CSR, applications of CSR (and sustainability) concepts to supply chains have only emerged in the last 15 years. Teun Wolters (2003) defined “sustainable supply chain management” (SCM) as the techniques and modes aimed at enhancing the social and environmental performance as well as the economic performance (i.e., quality) of the processes that are necessary to grow, process, transport, and sell a product. By applying sustainable SCM it is possible for organizations at different stages of a supply chain to work together so as to create a sustainable product and bring it to the market. The upstream producers thus can have a direct contact with the final purchasing company. Where there is not a dominant company in the supply chain, collaborative roles may develop, in which case the focus is on communication and convergence of plans.

Although external to a firm’s organization, supply chain relationships are absolutely critical in a global world, where companies more and more frequently outsource business activities to suppliers operating in developing countries because of the existence of low-wage labor. Although corporate environmental, health, and safety risks and opportunities are shifted out of the company boundaries, they affect anyway the company performance. Because of sustainable SCM, companies can be held responsible for the social and environmental impacts arising along the supply chains to which they belong. Companies are thus demanded to integrate ecological and social aspects into their decisions and actions along those supply chains. CSR is particularly relevant in trade relationships involving large international trading and manufacturing companies that obtain their major inputs from low-income regions in the world. In these cases, sustainable SCM means taking responsibility for the well-being and performance of small upstream producers in developing countries.

Literature on SCM and CSR mostly focuses on specific topics, such as

- codes of conduct and formal management systems used by companies;
- environmental supply chain management;
- logistics social responsibility, including environmental logistics;
- purchasing social responsibility, including ethics and environmental purchasing;
- ethical sourcing or trading; and
- development of minority- and women-owned supplier companies.

This chapter reports a literature review for each of the above topics. Some researchers in particular studied specific sectors such as the apparel, food, footwear, forest products, confectionary, and retail industries.

NONFINANCIAL REPORTS

More and more companies write nonfinancial reports—that is, voluntary reports which describe relationships with stakeholders and provide interested parties with information on corporate environmental, social, and economic aspects—so following the “triple bottom line” approach. Francesco Perrini (2006), in a survey on nonfinancial reports published by European companies, found that reporting on the supply chain tends to take a partnership approach between a company and its suppliers on issues related to human rights, working conditions, and environmental issues. To provide evidence of such partnerships, and thus enhance credibility, companies often refer to specific management tools—such as Social Accountability 8000 (SA8000)—when describing SCM. In this way, they aim at demonstrating to stakeholders the extent to which CSR in SCM has been internalized

and become a routine. Companies also tend to disclose information about corrective actions to remove suppliers that are not compliant with the company's CSR policy or code of conduct. According to Francesco Perrini, there is an opportunity to pay more attention to supplier relationships in nonfinancial reports. Reporting companies could especially provide more quantitative data about procurement. In addition, a multiyear view could help the assessment process by highlighting the evolution of the relationship between the company and its suppliers as well as the progressive geographical dispersion of the supply chain.

CODES OF CONDUCT AND FORMAL MANAGEMENT SYSTEMS

An increased pressure is placed upon companies by stakeholders, mainly consumers and nongovernmental organizations (NGOs), specifically to develop management systems across the supply chain. Such systems are able to transfer socially responsible behaviors along the supply chain. This stands especially in developing countries when the countervailing powers of governments and civil society are weak and poverty is widespread. The management systems should be able to address all issues and problems related to the conditions under which the products are manufactured, such as the respect of human rights and working conditions at suppliers' sites. Aggressive campaigns against well-known companies in different industries have forced many companies to adopt strategies to transfer socially responsible behaviors along the supply chain. For instance, consumers and NGOs criticized Nike regarding sweatshop labor issues at its overseas suppliers. Nike initially declined social responsibility for its supply chain partners but later changed its attitude under increased public pressure. In addition to ethical considerations, consumer criticism of perceived CSR deficiencies can be extremely detrimental to corporate profitability and market share. Companies may therefore find it more prudent to anticipate future CSR issues in their supply chains and integrate CSR standards into daily operations along the supply chain. A significant number of companies have adopted standards such as codes of conduct, ISO14001 certification, European Eco-Management Audit Scheme (EMAS) registration, or SA8000 certification to influence the practices of their business partners and provide a baseline of social and environmental principles to be respected. ISO14001 and EMAS refer to the implementation of an environmental management system, whereas SA8000 focuses on human rights and working conditions and involves the establishment of a social management system analogous and combinable with ISO standards. Other instruments that are used by companies are the United Nations (UN) Global Compact initiative and the ILO conventions. The UN Global Compact is a set of ten principles about human

rights, working conditions, environmental protection, and anticorruption policies. ILO conventions largely focus on working conditions.

According to Ivanka Mamic (2005), a typical code of conduct sets guidelines on a range of issues including child labor, forced labor, wages and benefits, working hours, disciplinary practices, freedom of association, occupational health and safety, and environmental practices. In addressing SCM issues and implementing a code of conduct, companies use an integrated approach which covers the following areas:

- Development of a vision
- Understanding of the vision by employees and suppliers
- Implementation
- Monitoring, feedback, and improvement

Each of these sets of activities takes place at both suppliers and the company.

To transfer socially responsible behaviors to supply chain partners, companies can

- establish written supplier requirements—that is, guidelines and requirements that report the social and environmental performance the suppliers are asked to pursue. Suppliers are usually required to comply with local law and some international standards. The management systems include, in addition to standards of acceptable behavior, the organizational structures, procedures, processes, and verification system to ensure the compliance.
- monitor supplier performance to verify their compliance with the written requirements. Typical monitoring procedures involve surveys and site inspections. Companies can conduct audits by means of internal staff or by engaging external consultants (third-party auditing). A typical audit process is composed of (a) a physical inspection, (b) a documentation inspection, and (c) interviews with workers. The physical inspection is used to examine, amongst other things, items such as emergency exits, sanitary conditions in toilet and dining facilities, and the use of personal protective equipment by workers on the shop floor.
- contribute to suppliers' awareness building and training on CSR issues. These initiatives can be targeted both to (a) suppliers' top management, so as to make such managers understand the logic behind CSR, its relevance, and the business case for it; and (b) workers at suppliers' sites. This step is greatly important to assure that the codes are really implemented starting from the bottom level. In the context of foreign operations, communication and training need to be sensitive to: regional or local dialects; nonverbal expressions; traditions of interpersonal communication; and the nuances associated with translation and interpretation as well as gender, age, religion, or tribal customs. Another critical issue is the lack of knowledge by managers, in particular on the labor laws existing in developing countries.

This is an opportunity for dialogue with local governments or NGOs.

When noncompliances are detected, companies can adopt two different approaches: (a) they can terminate the contract with the noncompliant supplier or stop the business until the corrective changes are implemented (namely compliance strategy), or (b) they can also build up the supplier's own capacity to handle CSR issues and address noncompliances (namely capacity-building). Companies generally develop some form of grading criteria for the audits, with certain standard violations considered as completely unacceptable such as the use of child labor or forced labor. Corrective action plans are generally agreed by the supplier and the auditor and overseen by the company using the standard. The continuous improvement philosophy is part of the capacity-building approach; to promote this culture different actions can be performed, such as continuous training programs. A prerequisite for capacity building is the establishment of a long-term and close relationship with suppliers. Most CSR efforts are still targeted at monitoring first-tier suppliers, leaving second-tier suppliers intact or entrusting them to first-tier suppliers' responsibility.

ENVIRONMENTAL SUPPLY CHAIN MANAGEMENT

George A. Zsidisin and Sue P. Siferd (2001) defined environmental supply chain management (ESCM) for an individual firm as the set of SCM policies held, actions taken, and relationships formed in response to concerns related to the natural environment with regard to the design, acquisition, production, distribution, use, reuse, and disposal of the firm's goods and services. Stakeholders such as managers, employees, or boards of directors may raise environmental concerns internally, whereas customers, suppliers, other large trading partners, government bodies, members of the community, competitors, and others may raise them externally. A given firm, perceived as the most powerful in its supply chain, has an opportunity to strategically influence the supply chain partners' attitudes and actions in a way that will be environmentally responsible. Individual firms can serve as champions to spearhead environmental awareness within the supply chain. Nevertheless, the collaborative environmental efforts of one firm may be mitigated if, within the supply chain, another trading partner is more powerful and less dedicated to the reduction of harmful environmental effects.

Changes within the supply chain are necessary to reduce the amount of waste and emissions, as well as the use of nonrenewable resources. The eldest environmental actions applied in a supply chain have been effect directed (with an end-of-pipe approach) such as waste treatment. More integrated actions are waste-directed and emission-directed

adaptations in technology such as reuse of materials and packaging, and recovery of products. Legal requirements and changing consumer preferences increasingly make suppliers and manufacturers responsible for their products, even beyond their sale and delivery. The most integrated approach is source-directed and deals with adaptation of raw materials, product redesign, and process changes over the entire life cycle of a product; to evaluate the environmental burdens associated with a product, process, or activity, one of the most adopted techniques is Life Cycle Assessment, which identifies and quantifies energy and materials used and wastes released to the environment.

Some of the ESCM strategies used by companies include

- written policies relating to suppliers' environmental performance and communication materials on the company's environmental goals and expectations (e.g., letters, brochures, articles in supplier newsletters, and Internet and Intranet sites that suppliers use);
- questionnaires and audits;
- supplier meetings;
- training and technical assistance to enhance the suppliers' own environmental management capabilities;
- collaborative research and development, by involving suppliers in the design process; and
- restructuring relationships with suppliers and customers to realize both environmental and economic gains.

Successful ESCM programs show several common characteristics:

- top-level support;
- cross-functional teams, involving representatives from the different supply-chain-related functional areas within a company (i.e., procurement, environment, health and safety, manufacturing, marketing, research and development, distribution);
- effective processes for targeting, evaluating, selecting, and working with suppliers; and
- effective communication within companies and with suppliers. Open communication is the key to foster a system-wide perspective on environmental performance among supply chain members.

LOGISTICS SOCIAL RESPONSIBILITY

Researchers over the past years have advocated the role of logistics expanding to encompass social responsibility. According to Richard F. Poist (1989), logistics can offer potential solutions to a variety of social issues and problems, including consumerism, employee education and training, occupational health and safety, hunger and homelessness, and environmental and ecological issues. Paul R. Murphy and Richard F. Poist (2002) noted that research in the area

of logistics social responsibility (LSR) has lagged behind that of other functional areas of the firm, despite logistics managers' beliefs that CSR is an important component of logistics that will increase in importance over time. Whereas logistics management encompasses several processes—that is, inbound and outbound transportation management, warehousing, inventory management, management of third-party logistics service providers, sourcing and procurement, packaging and assembly, and customer service, according to the Council of Supply Chain Management Professionals (2007)—the literature on LSR examines only some of those processes, namely purchasing, transportation, packaging, warehousing (related to the forward flow of materials), and reverse logistics (related to the reverse flow). Within such processes, the LSR practices can be classified into six topics: (1) environment, (2) ethics, (3) diversity, (4) working conditions and human rights, (5) safety, and (6) philanthropy and community involvement. Francesco Ciliberti et al. (in press) developed a taxonomy of the LSR practices adopted by companies. The taxonomy involves 47 different LSR practices classified based on five areas, namely purchasing social responsibility, sustainable transportation, sustainable packaging, sustainable warehousing, and reverse logistics.

Paul R. Murphy and Richard F. Poist (2002) conducted a mail survey of logistics professionals employed by members of the Council of Logistics Management. The survey focused on an overview of LSR and attempted to identify key issues, strategies, and functional impacts. As results of the survey, logistics plays a more prominent role in the implementation than in the formulation of CSR policies. The two strategies most used to manage LSR issues involve establishing codes of conduct and increasing the training and education of logistics personnel. Ethical conduct is the most important LSR issue. Three safety-related issues (i.e., safe movement and storage of products, occupational employee health and safety, and hazardous material storage and transport) were also rated as having maximum importance. The most pronounced impacts of CSR issues on logistics functions involved salvage and scrap disposal, packaging, and materials-handling functions.

Potential LSR issues have largely been examined separately, as though CSR had no impact on the overall decision-making process. Craig R. Carter and Marianne M. Jennings (2002) grouped together these issues within a framework and conducted in-depth interviews with 26 managers employed by members of the Council of Logistics Management in the areas of purchasing, transportation, and warehousing. Findings suggested that logistics managers should recognize not only the integration of the different LSR issues into the decision-making processes, but also realize the synergism that comes from building upon their experiences with one LSR issue (e.g., the initiation of environmental activities) when implementing other LSR programs (e.g., developing safety procedures and programs). In their survey, Craig R. Carter and Marianne M. Jennings (2002)

also investigated the drivers, barriers, and consequences of LSR. As a result, organizational culture is the main driver of LSR, followed by managers' individual values. Government regulation and liability are not relevant drivers, and are perhaps more reactive as opposed to proactive drivers of LSR. The most common barrier is difficulty in coordinating activities and objectives of internal functions or external members of the supply chain. This barrier can be overcome by developing written policies (e.g., codes of conduct or ISO14001 certification), and through feedback mechanisms such as opening up lines of communication and increasing the amount of formal coordination across functions or organizations in the supply chain (i.e., requiring employees to annually read and sign policy statements dealing with LSR issues). In some cases, organizational culture is a specific barrier, rather than a driver, of LSR. In these cases the organizational culture actually stifles the implementation of LSR activities. For each case in which organizational culture acts as a barrier, the personal values or morals of the logistics managers are listed as a driver. One of the more common consequences of LSR is employees' satisfaction. Other consequences of LSR include improved employee motivation, enhanced supply chain relationships, and the establishment of trust with customers or suppliers.

Workforce diversity and environmental issues appear to be among the most prominent LSR issues analyzed in the literature. Several studies indicated that women are generally satisfied with their current positions and hold favorable views regarding their future in logistics. At the same time, several other studies revealed concerns regarding opportunities in the profession, with women perceiving fewer opportunities than those available for men. In addition, women are more likely than men to perceive the existence of gender discrimination.

ETHICS IN LOGISTICS

Ethical considerations are increasingly germane to the logistics discipline since contemporary logistics and SCM emphasize the importance of partnerships and strategic alliances. Central to successful logistical partnerships and strategic alliances is the sharing of information and the trust that this information will not be abused or misused by logistics partners. A review of the literature on ethics in logistics suggests that many of the issues in transportation and purchasing overlap—that is they involve relationships with suppliers, carriers, or other outside organizations. Ethical considerations have received insufficient attention in the logistics journals. Paul R. Murphy and Richard F. Poist (2002) tried to explain the laggard nature of logistics with respect to CSR by referring to Archie B. Carroll's framework. Since the logistics discipline has tended to address only economic and legal considerations, the limited literature attention to ethical issues in logistics is consistent with a laggard approach to CSR.

ENVIRONMENTAL LOGISTICS

Richard F. Poist (1989) stated that logistics is especially well positioned to contribute to environmental and ecological control in terms of packaging issues, pollution control, and energy and resource conservation. Environmental logistics can be considered as a subset of LSR. Several activities, such as vehicle maintenance and route optimization, have been extensively studied in the past, but most papers dealing with them lacked of social and environmental perspective. As more and more businesses find opportunities in the greening of markets, logistics managers need to identify environmentally relevant logistics activities and make environmentally responsible logistics decisions. The decisions of logistics managers on how and where resources are used can potentially have a major impact on the environment. Logistics decisions also intimately interact with other business functions, such as inventory management and product design. Logistics managers thus have to evaluate the environmental impact from a total system perspective and so need to take environmental costs and benefits into consideration. Firms can be classified as environmental progressives, moderates, or conservatives on the basis of their attitude toward environmental logistics. Paul R. Murphy et al. (1996) found that environmental progressives may reject suppliers without sufficient environmental awareness, policies, and procedures.

Environmental logistics decisions deal with

- raw materials acquisition (i.e., purchasing, vendor selection and location);
- inbound logistics (i.e., consolidation, mode selection, carrier selection, materials handling, warehousing, backhaul management);
- transformation (i.e., inventory management, packaging);
- outbound logistics (i.e., network design, inventory decisions, packaging, consolidation, mode selection, carrier selection, warehousing, backhaul management);
- marketing (i.e., service level, channel decisions); and
- after-sales service (i.e., returns handling, parts management, service network).

According to Elizabeth Deakin (2001), “sustainable transportation” is defined as transportation that meets mobility needs while preserving and enhancing human and ecosystem health, economic progress, and social justice now and for the future. Substantial interest in sustainable transportation can be dated back to the early 1990s. The main environmental impacts are associated with (a) emissions of greenhouse gases, (b) emissions of compounds that thin the stratospheric ozone layer, and (c) transport-related production of persistent organic pollutants (POPs) and their effects on biological systems. Sustainable transportation involves, as an example, freight consolidation, mode selec-

tion, and carrier selection. Freight consolidation improves vehicle efficiency and thus reduces the environmental impact of transport. Some transport modes, such as rail or sea, use less or more energy than other modes, such as road or air. Carrier selection can ensure that carriers take environmental measures in transport and distribution.

According to Karli James et al. (2005), “sustainable packaging” can be defined as packaging that (a) adds real value to society by effectively containing and protecting products as they move throughout the supply chain and by supporting informed and responsible consumption; (b) is designed to use materials and energy as efficiently as possible throughout the product life cycle; (c) is made up of materials which are cycled continuously through natural or technical systems, so minimizing material degradation and/or the use of upgrading additives; and (d) is made up of components that do not pose any risks to human health or ecosystems. The packaging industry has been under pressure for more than 20 years to reduce the environmental impacts of its products. In some countries, take-back legislation on packaging has made the packaging operation and planning a critical green logistics issue. The debate on the environmental impacts of packaging has recently moved toward a more holistic discussion on life cycle environmental impacts of the entire packaging supply chain.

Sustainable warehousing includes activities such as terminal and warehouse location, proper storing and disposing of hazardous materials, donation of excess or obsolete inventory to local communities, and training to safely operate forklifts.

Reverse logistics includes all issues related to source reduction, recycling, substitution, reuse, and disposal of materials. The reverse logistics definition has changed over time; initially, the expression “reverse logistics” was used to refer to reverse direction (with respect to the forward direction that goes from suppliers to final customers), then the literature on reverse logistics started to include references on the environmental aspects. Lately, its scope has been widened: reverse logistics can be considered as part of CSR, since it deals with the implementation, at the company level, of processes that guarantee the use and reuse (efficiently and effectively) of the value put into products. As the reverse logistics process is less transparent than the forward logistics process, reverse logistics costs are less visible than those present in forward logistics. Hence, information support is necessary to achieve efficient reverse logistics operations.

PURCHASING SOCIAL RESPONSIBILITY

Isabelle Maignan et al. (2002) defined purchasing social responsibility (PSR) as the inclusion in purchasing decisions of the social issues advocated by organizational stakeholders. PSR has the same characteristics of CSR, but

is divergent because of the purchasing manager's distinct interaction with a broad set of stakeholders including buyers, suppliers, contractors, the community, and internal employees in most of the other functional areas of the company. Whereas some of these activities may overlap with the general CSR of the firm, the purchasing managers play a distinct role in gathering support from and coordinating with other groups for socially responsible conduct in the company's relationship with suppliers.

Craig R. Carter and Marianne M. Jennings (2004) found that activities in the areas of diversity, environment, safety, human rights, and philanthropy in purchasing management, which have been studied separately in the past, are related and included within PSR. Purchasing managers should thus oversee PSR programs in a holistic fashion. For example, those organizations that currently promote their activities in one area of PSR should also strategically consider the management and promotion of other areas within PSR. Conversely, firms that fail in one dimension of PSR (for example, sourcing from suppliers that use sweatshop labor, or purchasing materials and packaging that are not environmentally friendly) may harm their overall reputation regarding social responsibility.

The activities encompassed within PSR, which also involve packaging issues, new product design, materials management, and warehousing, support the assertion that purchasing managers must interface with other logistics managers in these mentioned areas in order to accomplish PSR initiatives. At the same time, purchasing managers must coordinate with and manage suppliers to ensure that their organization purchases socially responsible inputs and has a diverse supply base, and that suppliers are in turn managing their own organizations and second-tier suppliers in a socially responsible manner. If a company adopts social and/or environmental standards, the purchasing function can be used to transfer them to suppliers, so generating a chain effect by which quick and deep social and environmental changes can be caused.

Significant drivers of PSR are a people-oriented organizational culture, top-management leadership, employee initiatives, and customer pressure. Top-management leadership has also a significant mediated effect on PSR, through a people-oriented organizational culture; top managers can initiate, require, and support PSR programs, and corporate leaders can also strongly impact PSR by influencing the organizational culture through their own examples. The relationship between customer pressure and PSR emphasizes the importance of coordination between upstream and downstream logistics managers within the firm, specifically with regards to PSR. Government regulation is not a significant driver of PSR and might even act as a barrier to the implementation of certain socially responsible activities, particularly if the regulation is not tailored to specific industries. Firm size is not a driver of PSR either.

Four PSR strategies are employed by companies when faced with specific stakeholder demands. They are posi-

tioned along a continuum ranging from proactive to reactive approaches:

- Reactive (i.e., denying the relevance of any stakeholder issue to the organization and that the firm has stakeholder responsibilities);
- Defensive (i.e., implicitly acknowledging the existence of stakeholder issues, but avoiding addressing these issues);
- Accommodative (i.e., addressing stakeholder issues as long as they do not harm established organizational processes and financial performance); and
- proactive (i.e., systematically anticipating, surveying, and addressing stakeholder demands).

The selection of a PSR strategy is based on a tradeoff between the associated costs and motivations. Three main factors stand out in favor of proactive strategies:

- Stakeholder pressures
- Organizational values
- Concrete business benefits (e.g., no negative publicity, stimulation of innovations, a special link with customers, and increase of employees' commitment)

The development of PSR practices is based on six consecutive steps:

1. Assessing stakeholder pressures
2. Clarifying purchasing policies based on organizational values
3. Estimating potential business benefits and goals
4. Choosing a PSR strategy
5. Implementing PSR practices
6. Leveraging PSR

The Institute for Supply Management (2007) has defined a set of seven CSR principles directed at supply chain professionals. These principles deal with community, diversity, environment, ethics, financial responsibility, human rights, and safety

PSR practices can be divided as organizational and managerial. The most relevant PSR practices (as they are more cited in the literature) are reported in Table 12.1.

Francesco Perrini (2006) found that reporting relationships with suppliers in nonfinancial reports is divided into more specific indicators, such as those concerning the classification of suppliers by category; the supplier selection policies; and the activities concerning communication, awareness creation, and information. Reporting companies explain that they do not discriminate in any way against minorities in the process of selecting suppliers, but seem to have underestimated the informative power of describing procurement conditions and tend not to explain adequately the unfair pressures on suppliers caused by possible displacement of contractual force.

Table 12.1 Purchasing Social Responsibility Practices

<i>Topics</i>	<i>Practices</i>
<i>Organizational practices</i>	Defining CSR objectives for the purchasing function Designating organizational members in charge of PSR Educating suppliers to CSR topics Monitoring suppliers Sanctioning suppliers Communicating achievements to stakeholders Receiving stakeholders' feedbacks
<i>Managerial practices</i>	
Ethics	Not accepting gifts from suppliers (e.g., sales promotional prices or incentives related to purchase volume) Not pushing illegal pressures on suppliers or exaggerating a problem to gain concessions (e.g., price cut) Not spreading information to suppliers (e.g., reveal competitors' offers and allow suppliers to reply on them) Not favoring certain suppliers because they are also good customers Not treating in a different way a supplier that is preferred or entrusted by higher level management Not allowing other departments (e.g., production), to purchase directly without respecting professional purchasing standard Not allowing personal likes or dislikes to interfere with supplier selection process Not accepting travels or meals or other free goods/services Not inventing a second supply source to gain a competitive advantage Not using unclear contractual terms to gain a competitive advantage Not deceiving a salesman in a negotiation Not defining specifications that favor a certain supplier
Environment	Purchasing goods with reduced, recyclable, and reusable packaging Requesting suppliers to commit in waste reduction Participating to design of products for disassembly, recycling, and reusing Analyzing product life cycle to evaluate the environmental compliance of products and packaging Cooperating with suppliers to ensure that their processes and products are environmentally sustainable
Diversity	Purchasing from suppliers that belong to ethnic minorities or are women owned Elaborating formal programs to favor procurement from suppliers belonging to minorities
Human rights	Analyzing labor conditions of workers in supplier companies (by ensuring that forced or child labor is not carried out and that wages are reasonable)
Safety	Verifying safety conditions in suppliers' plants Verifying safety conditions during the movement of purchased material from suppliers' plants to corporate plants
Philanthropy/community	Defining programs to support local supplier development Organizing bids, donations, and other charitable initiatives

SOURCE: Ciliberti et al. (in press).

ETHICS IN PURCHASING

Craig R. Carter and Marianne M. Jennings (2004) found that ethics does not constitute a dimension of PSR and explained the results supposing that purchasing managers have made clear practical distinctions between their perceived ethical obligations and their obligations in the area of PSR. In spite of this empirical finding, transgression and impropriety in the procurement process can comprise a company's CSR mission along the supply chain. Craig R.

Carter and Marianne M. Jennings also found that ethical issues in buyer-supplier relationships consist of two unique dimensions:

- The first dimension, "deceitful practices," includes activities such as using obscure contractual terms to gain advantage of suppliers.
- The second dimension, "subtle practices," encompasses somewhat more subtle activities such as showing favoritism when selecting suppliers.

ENVIRONMENTAL PURCHASING

Environmental purchasing can be considered as a subset of PSR and deals with the involvement of the purchasing function in activities aimed to facilitate recycling, reuse, and resource reduction, according to C. R. Carter and J. R. Carter (1998). To control or influence suppliers' environmental activities, purchasing managers can use vendor rating systems or environmental audits that use quantitative and qualitative factors in determining suppliers' environmental performance. Companies can also provide design specifications to suppliers that include environmental requirements for purchased items and can collaborate with suppliers to provide materials, equipment, parts, and services that support their environmental goals.

Some of the key drivers to environmental purchasing are

- the influence of downstream members of the supply chain, including distributors, retailers, and end customers;
- the extent of coordination between buying and supplying organizations;
- the support of top management;
- the organizational culture and philosophy;
- the initiatives of individual employees;
- the establishment of specific goals; and
- the provision of training.

Evidence of the influence of government regulation on environmental purchasing is mixed. Some studies suggest a positive relationship, whereas other studies found no relationship. Regulation can also act as a barrier to environmental purchasing due to its constant changes.

ETHICAL SOURCING

By ethical sourcing (or trading) Michael Blowfield (2003) meant that a company at one part of the supply chain (typically a brand owner, retailer, or other Western company with a public profile) takes responsibility for the social and/or environmental performance at other stages of the supply chain, especially for that of primary producers. This is a significant change from traditional practice as it means that a company takes responsibility for the behavior of others even if it does not have any long-term formal liability for the results of that behavior (i.e., in contrast to the responsibilities of a subsidiary or joint venture).

According to Michael Blowfield (2003), price is not given much consideration in ethical sourcing, either by the management systems used (e.g., SA8000) or in companies' programs and social reports. Low prices may encourage the negative behavior that ethical sourcing seeks to prevent, and this in turn will damage the reputation of the companies seeking to take responsibility for their supply chains. Another factor affecting the degree to which ethical sourcing is applied is the importance attached to product provenance.

The industries in which ethical sourcing is most advanced are those in which the supply chain appears to be relatively straightforward and where there is already some motivation for knowing the product origin (e.g., supermarkets need to know where their fresh vegetables come from because of a legal liability for food safety; the sports-shoe industry knows where its trainers come from because of product quality, design, and intellectual property rights issues).

Smallholder producers of tea and cocoa in Kenya and Indonesia have identified as social priorities the type of trading relationship (e.g., timely payment), the security of land tenure, and distribution of benefits, which are generally not mentioned in ethical sourcing. Companies engaged in ethical sourcing are reluctant to deal with the trading relationship. Issues such as land tenure may seem even less within an industry's control. However, in both Indonesia and Kenya, although for different reasons, some people see the threats to their land as a direct consequence of the supply chain partners' behavior.

Companies are more likely to implement ethical sourcing initiatives if external stakeholder pressure to do so is strong and external concerns are related to the company's core business and environmental strategy. Implementation is also more likely if there are identifiable benefits from action (e.g., cost savings or product and market differentiation) or risks from inaction (e.g., reputational damage and loss of market share). Sarah Roberts (2003) found that four supply chain characteristics affect the propensity to implement ethical sourcing in a company belonging to a given stage of the supply chain:

- The number of links between supply chain members demanding ethical sourcing and the considered stage of supply chain
- The diffuseness of the considered stage
- The reputational vulnerability of the supply chain members
- The power of the supply chain members

As an example, the branded confectionary companies, which are currently considering the most effective way of managing ethical risks in the supply network, face the triple challenges of long supply chains, diffuse sources, and powerful intermediaries with little interest in implementing solutions. Under these circumstances, individual company action makes little sense. Joint action by such an industry to develop a universal code, influence its suppliers, and organize joint monitoring is likely to be a much more effective way forward.

DEVELOPMENT OF MINORITY- AND WOMEN-OWNED SUPPLIER COMPANIES

Top management support and policies that require the inclusion of minority- and women-owned business enterprise (MWBE) purchasing criteria in the formal evaluation of purchasing managers are positively related to the extent

of purchases from MWBE suppliers. Some firms' MWBE programs are driven not only by social concerns but also by customer considerations, as minorities can represent large and growing market segments for many companies.

COMMUNITY

Corporate social responsibility activities toward the local community mainly focus on financial donations. Philanthropy strengthens employee loyalty and can also provide a source of corporate competitive advantage. For the most part, community elements of CSR have not been applied to the supply chain. Nevertheless, practitioners and researchers should still be aware of its potential influence and look for opportunities to support the community.

CORPORATE SOCIAL RESPONSIBILITY OF SMALL- AND MEDIUM-SIZED ENTERPRISES IN SUPPLY CHAINS

Several papers have examined the CSR behaviors by small- and medium-sized enterprises (SMEs) along the supply chain. However, most studies consider the role of SMEs as suppliers of larger companies and not as buyers from upstream (large and small) suppliers. An overview of CSR issues in supply chains made up of large customers and small suppliers is reported by Sarah Roberts (2003). Research on supply chain relationships should investigate more in detail networks made up of both large and small firms.

A company's smaller size often results in lower negotiation power and leverage to modify environmental forces in the market, especially suppliers and politics. Larger companies have more power to stimulate the socially responsible behaviors of their supply chain partners. For SMEs the adoption of CSR practices and their transfer along the supply chain can be difficult also because of the high costs to be incurred and the needed resources and competencies. For example, SMEs are often obliged to rely on third parties, such as NGOs or multinational companies, to monitor suppliers.

As buyers, SMEs can still exert pressure through the supply chain by championing CSR and encouraging partners to adopt a socially responsible behavior. Different strategies are adopted to this end, among them gentle encouragement, exerting direct pressure up and down the supply chain, acting as a best-practices study, and providing supply chain partners CSR-related presentations or an open-house for peers. Small and medium-sized enterprises can also provide advice and training to their suppliers, show a known willingness to use the sanction of switching suppliers for CSR reasons, and identify and share cost savings and income generation from CSR with suppliers. In most cases, SMEs more easily foster environmental than social responsibility along the supply chain.

CONCLUSIONS

This chapter has investigated corporate social responsibility issues in supply chain management. An overview of the theme, together with more detailed literature reviews on specific topics, such as the use of codes of conduct and formal management systems along the supply chain, environmental supply chain management, logistics social responsibility, purchasing social responsibility, ethical sourcing, and development of minority- and women-owned suppliers were given. The role of SMEs within this context as well as the relevance of reporting CSR activities in the supply chain were also discussed. The application of corporate social responsibility to supply chains does not have a long history and the number of related papers is growing. This chapter has intended to give a contribution to systematize such a dynamic body of literature.

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ACTIVIST GROUP TACTICS TO INFLUENCE COMPANIES

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Firms are entities with a considerable influence on social life. They affect wealth and welfare by offering jobs to workers, selling services and products to consumers, paying dividends to shareholders, and discharging wastes on nearby communities. However, firms are not necessarily held to be responsible to all of these, and other, stakeholders, other than as required by law. In fact, in the United States, firms are first and foremost held to serve the interests of their owners. Yet, if firms were to pursue the interests of their owners without any regard for the interests of workers, consumers, and communities—that is, if they were not to accept social responsibility commensurate to their social power—they are likely to lose business power because other actors may step in and enforce what managers fail to take responsibility for. Therefore, firms and their managers are advised to pay attention to a set of interests that is broader than profits and share prices. Fifty years ago, Keith Davis stated it this way: “Businessmen during the next fifty years probably will have substantial freedom of choice regarding what social responsibilities they will take and how far they will go. As current holders of social power, they can act responsibly to hold this power if they wish to do so. . . . The choice *is* theirs” (Davis, 1960, p. 74).

In 1960, Davis was thinking of the state—defender of the poor and oppressed, provider and protector of public goods—and of trade unions—protectors of workers’ rights

and, perhaps, the more or less established channel for the expression of anticapitalist ideology and rhetoric—as those actors who were likely to step in. Since the 1960s, but particularly since the 1990s, it has become increasingly evident that *other* groups were stepping in. Examples include the continuing campaigns by human rights activists and other groups to improve labor conditions in the global supply chains of apparel companies such as Nike, and the short but fierce campaign conducted by Greenpeace against Shell, regarding the intended deep-sea disposal of the Brent Spar oil rig in 1995. David Baron (2003) refers to this phenomenon as “private politics.” These politics are private as the attempts that different groups make to influence corporate decision making and economic activity are directly oriented toward firms and trade regimes without reliance on public institutions or officeholders, thus bypassing law making or law enforcement. Following this definition, we do not consider political lobby and lawsuits in this chapter, although legal routes are often used and potentially highly effective tactics that therefore are an indispensable part of their tactical repertoire.

Thus, how such groups (try to) influence firms has been an increasingly significant theme over the past few decades and is likely to remain prominent in the years ahead. Yet, their apparent influence remains difficult to understand, because from the firm’s perspective, such groups lack a

well-developed basis for negotiation and bargaining (De Bakker & Den Hond in press). Following this line of reasoning, we discuss how such groups try to influence firms, and whether the way in which they do so today is different from the past.

Before we can take up these two central questions, we need to discuss what we mean by “such groups,” which are likely targets for their activism and the various tactics they may use. Next, we distinguish between several influence mechanisms by which pressure may be exerted upon firms. We conclude this chapter with discussions of the research into the efficacy, and the novelty, of current corporate campaigns.

DEFINING THE OBJECT OF INTEREST

To make explicit what we mean by “other groups” is not an easy task because a wide variety of relevant labels and definitions are found in the literature. Some are quite restrictive, excluding relevant groups while others are almost catch-all labels. For example, the often-used label “nongovernmental organization” includes sports clubs, church organizations, private interest groups, and even the mafia, but most of such groups never bother with private politics as it has been defined by Baron (2003). How then do we define the groups that influence firms?

Some have referred to the agents of private politics in terms of what they are *not*. They are *not* governmental organizations, and they are *not* for-profit organizations. Such parlance is often used in settings of transnational policy making in order to emphasize their independence from nation states and corporate interests. Schepers (2006, p. 283) distinguishes between nongovernmental organizations (NGOs) that aim to provide assistance to those in need (direct-aid NGOs), that strive to help local communities in their efforts to establish local change (empowerment NGOs), and that try to influence either government or business policy formation or conduct (advocacy NGOs). Parker (2003) points at the existence of “hybrid” NGOs, which combine operational work and ambitions with advocacy means in order to establish some social benefit.

Others have referred to such groups by emphasizing particular characteristics. For example, Eesley and Lenox (2006) and De Bakker and Den Hond (in press) refer to such groups as “secondary stakeholders.” They emphasize the lack of a contractual bond between such groups and the firm, the absence of a direct legal authority over the firm, and a nonexistent or very weak established bargaining position vis-à-vis the firm. Adopting stakeholder language may obscure the considerable heterogeneity in the interests and identities among the members of, or subgroups within, a particular stakeholder group (Rowley & Moldoveanu, 2003).

Den Hond and De Bakker (2007) speak of “activist groups” in order to emphasize their propensity to orga-

nize campaigns around themes that they deem important. Keck and Sikkink (1998) refer to “transnational activist networks” to emphasize the extensive patterns of resource exchange and mutual support (networks) that have developed between tens of dozens of such groups from all over the world. These activists who “seek to make the demands, claims, or rights of the less powerful win out over the purported interests of the more powerful” (Keck & Sikkink, 1998, p. 217). Yet others speak of “interest groups” (Moe, 1981), thereby focusing on the particular single interests that such groups pursue and implicitly criticizing them for undermining the democratic system. Contrary to such notions, to refer to them as “civil society groups” emphasizes their role in creating and maintaining social capital and highlights their role in democratic processes (Scholte, 2004).

Such variety in terminology partly reflects the particular preoccupations of individual authors regarding their objects of study, and partly demonstrates the enormous variety among such groups that is indeed empirically found. By emphasizing certain characteristics over others, bias, confusions, and distortion are inevitably introduced; in that sense, “such groups that aim to influence firms” may be beyond unequivocal and uncontested definition. For the purposes of this chapter, we choose to adopt the term “activist group,” as we wish to highlight the intention of these groups to exert influence over corporations, and their willingness to make sacrifices to realize their ambitions such as investing resources and time or bearing risk. Yet we retain essential characteristics of several other concepts: their lack of bargaining power vis-à-vis the firm (the secondary stakeholder concept), their independence from the state and corporate interests (the NGO concept), and their claim to represent underrepresented groups and interests (the civil society group concept).

What Firms Do Activist Groups Wish to Affect?

Which firms are at a higher risk of being challenged by stakeholder groups? Different authors have theorized about this question. Frooman (1999) argues that as firms are more dependent on stakeholder support, either direct or indirect, these stakeholders gain influence over the firm. Rowley and Berman (2000) theorize some broad conditions that mobilize stakeholders, including characteristics of the focal organization (such as size), precipitating issues (such as accidents), industry characteristics, and the surrounding stakeholder environment. When taking the perspective of the firm, there seems to be some consistency in the suggestions that both proven, repeated wrongdoers and larger and more visible firms are at a greater risk of stakeholder scrutiny, and even more so if they operate in advertising-intensive industries or in environmentally or socially sensitive industries (cf. Hendry, 2006, for activism regarding environmental issues, and Rehbein, Waddock, & Graves, 2004, for shareholder activism). Conversely, such firms are

also more likely to invest in corporate social responsibility (McWilliams & Siegel, 2001).

The picture may change, however, when taking the perspective of activist groups. Building on social movement and identity theories, Rowley and Moldoveanu (2003) suggest that identity-based groups and interest-driven groups have different motives for targeting firms, and therefore may select different firms as their targets. There is also differentiation in the choice of tactics among activist groups. For instance, Carmin and Baiser (2002) find different tactical choices among Friends of the Earth and Greenpeace, and relate this to their political ideologies and environmental views, whereas Den Hond and De Bakker (2007) suggest that ideological differences among activist groups motivate them to choose different influence tactics to support their claims. Of course, such differences may also affect which firms stakeholder groups are more or less likely to target.

A CLASSIFICATION OF INFLUENCE TACTICS

The influence of activist groups over firms has been analyzed from various perspectives, with diametrically opposing assumptions. For example, from sociology (social movement studies) and political science emphasis has been placed on the conflict of interests, thus depicting their relationship as fundamentally adversarial (Keck & Sikkink, 1998; Micheletti, 2003). Conversely, in the tradition of stakeholder management, the potential benefits of cross-sector alliances have been highlighted; their relationship is seen as productive with a potential for win-win solutions ([WCED], 1987; Westley & Vredenburg, 1991). Yet, some stakeholder groups assume both roles, sometimes presenting themselves as adversaries and other times as partners. For example, Greenpeace is renowned for its confrontational tactics, but has also worked with industry, for instance in developing new technological solutions that fit with its ideological position such as a CFC-free refrigerator. Therefore, collaboration and confrontation must be viewed as two broad strategic options for activist groups to pursue their interests

Irrespective of whether a collaborative or an adversarial track is chosen, a first step for activist groups is to collect, organize, and disseminate information and formulate desirable outcomes. Often, an early step in a campaign is to inform a firm’s management of the particular concern—including the motivating moral outrage—and propose a desirable outcome or alternative course of action. Evidence is provided to substantiate the reasons for concern, such as labor issues or environmental is-

sues, and the moral superiority and practical viability of the proposed alternative is contended. If this is the common pattern by which activists and firms start their engagement, the question is, then, how activist groups may leverage their claims if the firm responds defensively to their claim (e.g., by window dressing, denying the charges, or rejecting responsibility)? Moral appeal, or the “logic of appropriateness” (March & Olsen, 1989), may not provide sufficient incentives for firms to change their practices.

Table 13.1 provides some examples of the broad range of tactics that has been described in the literature. Tactics are often classified on a dimension from being conventional and relatively nondisturbing to being unconventional and highly disturbing or even violent, thus including a suggestion of escalation. However, Den Hond and De Bakker (2007) point out that there are costs and benefits associated with the use of different tactics and that the balance of costs and benefits may be different for different activist groups, such that they have different routes during the escalation or persistence of a conflict. Although activist group tactics could also be fitted into a framework of carrots—positive incentives, sticks—negative incentives, and sermons—discursive incentives, such a framework is only superficially insightful in elucidating how activist groups may have leverage over firms.

For this chapter we distinguish four different mechanisms by which pressure may be leveraged upon firms. First, use can be made of the firm’s corporate governance system,

Table 13.1 Activist Group Tactics

		<i>Dependence on participatory forms of action is high</i>	<i>Dependence on participatory forms of action is low</i>
Material...	...Damage	Boycott	Blocking of gates, Sabotage, Occupation of premises, Internet activism ('hacktivism'), Lawsuits
	...Gain	Buycott	Cooperation
Symbolic...	...Damage	Writing letters or emails, Petitions, Marches, Rallies	Shareholder activism, Street theatre, Negative publicity, Research
	...Gain	Voluntary action	Positive publicity, Cooperation

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for example, by buying shares and speaking at shareholder meetings. This mechanism is obviously restricted to in the case of publicly traded firms. Other mechanisms are more universally applicable. As firms generally have a profit motive, affecting operational costs and benefits is a second potentially effective mechanism.¹ Costs and benefits can be affected in either of two forms: material and symbolic, that is through the marketplace (e.g., by convincing buyers to shop consciously or informing them through various labels about products and production processes) and through public opinion (e.g., via naming and shaming campaigns or trying to affect a firm's reputation in mass media). In the case of publicly traded firms, the efficacy of both forms may be enhanced if they also have an effect on the firm's stock price. A third mechanism is to engage with a firm more positively, respecting the firm as a party that is sufficiently trustworthy to conclude agreements. Social alliances, then, can be found of different sorts, for instance differing in the length of time of the engagement, ranging from short-term bargaining to long-term collaborative agreements. Finally, it may be decided by the activist group that setting up wholly novel and independent business systems to work with current firms is not seen as an option by the stakeholder group, for instance, on ideological grounds.²

Of course, in reality, these mechanisms do not always work independently. For example, discursive tactics may be needed to inform buyers and affect their attitude and evaluation of products or their providers. Likewise, the success of special labels, brands, and hallmarks in the market often crucially depends on a close collaboration between various parties, including firms, NGOs, academics, and even governments. And some of the new business ventures or systems can only thrive on the anticorporate rhetoric they espouse: fair trade is positioned opposite allegedly unfair regular trade. Next, we outline the four mechanisms in more detail.

CORPORATE GOVERNANCE: SRI AND SHAREHOLDER FINANCIAL ACTIVISM ON SOCIAL ISSUES

Some activist groups make use of the principal-agent relationship between a firm's shareholders and its management in order to leverage their claim (Waygood & Wehrmeyer, 2003). For privately held firms, they need to find allies among the firm's shareholders, including institutional investors such as banks, insurance companies, pension funds, and social investment funds and issue their concerns through them. Leverage over the firm originates from the damage, in terms of reputation loss or higher cost of raising capital, resulting from divestment by the institutional investor. Socially responsible investment (SRI) "is an investment approach that uses both financial and nonfinancial criteria to determine which assets to purchase, but whose distinguishing characteristic is the latter" (Guay, Doh, & Sinclair, 2004, p. 126). According to Guay et al. (2004), its origins

are in the 1920s, "when various religious groups stipulated that their investments not be used to support 'sin' shares (liquor, tobacco, gambling)" (p.126), but the monetary value of socially invested assets has increased steeply during the 1990s, when large institutional investors began to use their assets to pressure firms.

For publicly traded firms, activist groups have the additional option of using shareholder meetings as platforms for raising their issues. Such meetings receive routine attention from the financial mass media because of the publication of quarterly or annual profit statements and the discussion of major strategy changes. Therefore, they also lend themselves well for addressing nonfinancial issues by activist groups. It took several steps in the United States before this tactic was institutionalized (in the United Kingdom, see Waygood & Wehrmeyer, 2003). A first important development occurred in 1942 when the U.S. Securities and Exchange Commission (SEC) ruled that "shareholders had the legal right to communicate to each other and to management through the medium of the company's proxy material" (Marens, 2002, p. 370). Shortly thereafter the first attempts were made to use the shareholder proxy process for having a vote on social issues. Thus, during the 1940s, "questioning senior executives from the annual meeting floor was the occasional mode for raising social topics" (Proffitt & Spicer, 2006, p. 168).

Although such attempts did bring social issues to the attention of management, the proposals were usually rejected on the grounds of failing the "proper subject" test, which was formalized by the SEC to "exclude proposals designed to advance 'general economic, political, racial, religious, social or similar causes'" (Proffitt & Spicer, 2006, p. 168). This situation changed in 1970, when a federal court decision forced the SEC to reinterpret its "proper grounds" clause. The occasion was "Campaign GM," which succeeded to "force General Motors to include two socially oriented shareholder resolutions in the proxy statement mailed to the corporation's 1.3 million owners," but failed to gain support from GM's large institutional investors (Hoffman, 1996, pp. 51–52).

Thus, a new tactic—the shareholder proxy voting process on social issues—was institutionalized. Once properly submitted and passing the proper grounds test, management has the option of either formulating a response to the proposal and submitting that response for a vote in the shareholder meeting or negotiating with the filers of a proposal on the conditions for their withdrawal of the proposal. Withdrawal then can be seen as an indicator of activist success, as management apparently has made sufficient concessions to satisfy the filers of the proposal (Graves, Rehbein, & Waddock, 2001; Proffitt & Spicer, 2006).

Apparently, there was a significant increase in the number of shareholder social resolutions around 1990, at least in the United States (Graves et al., 2001; Hoffman, 1996; Proffitt & Spicer, 2006). Hoffman argues that this may well have been the result of the founding of CERES,³ which was the first in the social investment movement to combine financial

benefits for shareholders and the resolution of social issues in its objectives. Although the increased use of shareholder social resolutions might be considered an indicator for the success of these tactics, Vogel (1978, 2005), in his analyses of anticorporate activism, concludes that their impact on corporate policies largely consisted of marginal procedural adjustments, rather than substantial changes; its relevance was in stimulating a public political debate, and thereby facilitated subsequent government regulation. Graves et al. (2001) find evidence that the issues addressed in shareholder social activism vary over time and suggest that the waxing and waning of issues is at least partly related to fads and fashions in public interest in particular issues.

OPERATIONAL COSTS AND BENEFITS

Although shareholder activism can work through raising costs for firms, such as costs of capital, its fundamental mechanism is not its impact on operational costs and benefits—but it is for a broad range of influence tactics. In this section we will outline two central routes of influence: directly through the marketplace and indirectly through public opinion.

Marketplace Tactics

To look at the operational costs and benefits associated with activism, studying political consumerism is a useful starting point (Holzer, 2006; Micheletti, 2003). Political consumerism concerns the choice of products, producers, and services on the basis of political values, virtues, and ethics rather than on material cost and benefits (Micheletti, 2003, p. ix–xi). Political consumerism can thus be seen as a politicizing of the customer, directed at leveraging some activist group's claim, for its own benefit or for that of a third party whose cause is supported. Political consumers deploy their buying power to strive for social change.

Political consumerism can be exerted both negatively through boycotts (i.e., *not* shopping with banned sellers), and positively through buycotts (i.e., buying products and services from preferred sellers; Friedman, 1999). The efficacy of boycotts and buycotts is constrained by a problem of collective action, as the power behind political consumerism is “the power of agencies that command enough credibility to influence many people's decisions and thus to transform individual choices into a collective statement” (Holzer, 2006, p. 407). Significant efforts are thus required to mobilize the crowds needed to substantiate the threat of using individual consumer power. This tactic therefore requires a large effort on the part of the activist group (Den Hond & De Bakker, 2007). As Vogel (2004) concludes, “It has proven very difficult to mobilize large numbers of consumers to avoid the products of particular companies for social or political reasons” (p. 96)

In spite of these difficulties, both boycotts and buycotts have a long tradition. The word boycott itself derives from

the name of an English estate agent on an Irish estate who refused to grant tenants a reduction in their rents in a time of economic hardship and in turn was ostracized. Several historical overviews can be found showing how they were used already 125 years ago (Frank, 2003; Friedman, 1999). Early examples mainly concern local or regional orientations, for instance, regarding labor issues. Product labels were used to signal consumers that a certain product was made in unionized firms. Following the rise of corporations and their increased transnational nature, transnational consumer campaigns were also developed. Early examples thereof include the boycott of Nestlé during the 1970s and early 1980s for its marketing of instant formula in developing countries and the boycotts of Shell and other firms for their investments in South Africa during the apartheid regime. There are indications that the use of boycotts, buycotts, and labeling schemes has flourished since the 1990s (Micheletti, 2004). Nevertheless, their dependence on large numbers of participants makes them a costly tactic for activist groups.

The use of more violent tactics, such as blocking gates and other ways of obstructing production processes and daily routines, are less frequently applied but should be mentioned here. Apart from making newsworthy stories—and thereby potentially influencing public opinion—such tactics are aimed at increasing a firm's operational costs. For example, one reason why animal rights groups liberate mink and other species that are kept for their furs is to financially ruin fur farms.

Public Opinion Tactics

Since the rise of mass media, attempting to inflict symbolic damage through public opinion tactics has become another option for activist groups (Friedman, 1999). Reputation has become an important asset for firms, especially for those operating in advertising-intensive consumer markets. Their market shares or their opportunities to attract and maintain a high-quality workforce in part depend on their reputation. Because of this, corporate reputation has become an interesting lever for activist groups to gain influence over firms.

Public opinion tactics can be seen as examples of “discursive” political consumerism, which is “expression of opinions about corporate policy and practice in communicative efforts directed at business, the public at large, and various political institutions” (Micheletti, 2004, p. 5). They can be contentious or noncontentious. Activist groups inflict symbolic damage if they succeed in convincing public opinion that the targeted firm does not comply with generally accepted or institutionalized rules, values, or categories. Conversely, they deliver symbolic gain by providing endorsements to firms that meet their standards.

One example of trying to inflict symbolic damage on firms is through “culture jamming,” which has its roots in the 1960s (Carducci, 2006; Rumbo, 2002). By taking corporate symbols and logos out of context and transforming

them in public, protesters aim to disturb the firm's image management and influence the mental associations consumers experience when viewing them in another instance. As Den Hond and De Bakker (2007) argue, the ambition of such a tactic is to convince the public at large, and through them political decision makers, that the targeted firm belongs to some morally disfavored taxonomic category. Doing so then could be a first step in creating public support for further activism, for example, for a boycott to succeed. After all, an important characteristic of culture jamming and related public opinion tactics is hidden in the fact that they do not require broad endorsements. As Bennett (2003) notes, "Unlike boycotts, many contemporary issue campaigns do not require consumer action at all; instead, the goal is to hold a corporate logo hostage in the media until shareholders or corporate managers regard the bad publicity as an independent threat to a carefully cultivated brand image" (p. 152). Thus, symbolic damage contains a threat of inflicting material damage.

Interestingly, King and Soule (forthcoming) evaluated the impact of protest on market value, including both marketplace and public opinion tactics. They found that the staging of protest did have a negative impact on stock price, but also that "the most powerful feature of protest vis-à-vis stock price lies in its ability to upset image management, not in its ability to threaten direct costs to firms" (p. 38).

SOCIAL ALLIANCES

To activist groups, teaming up with a corporation to form a social alliance, or a cross-sector collaboration, is a third mechanism for exerting influence. There are indications that the number of cross-sector collaborations have significantly expanded through the 1990s (Rondinelli & London, 2003). Legitimizing the possibility of such alliances by emphasizing the potential mutual benefits to both firms and the causes that activist groups seek to promote is probably one of the conceptual breakthroughs of the report by Bruntland's WCED (1987), but the idea had already been explored in the concept of "stakeholder management" (Freeman, 1984).

In one of the first analyses of social alliances, Westley and Vredenburg (1991) explored how Greenpeace (Canada) derailed Pollution Probe's support for an "environmentally friendly" product line of a major Canadian grocery retailer. The case shows both a model for social alliances, as well as the tensions that such alliances and collaborations may evoke among the rank and file of activist groups. Shortly thereafter, in 1992–1993, Greenpeace (Germany) and Foron jointly developed a CFC-free refrigerator (Stafford, Polonsky, & Hartman, 2000). Yet, almost 2 decades of experience with social alliances has not resulted in any systematic research into their efficacy. Most academic analyses are based on case studies to the result that still "the rhetoric of partnership far exceeds its reputed efficacy" (Googins & Rochlin, 2000, p. 130).

Social alliances exist in many forms (cf. Hartman & Stafford, 1997; Rondinelli & London, 2003). Some forms include the transfer of money or employee time from the firm to the social partner (corporate philanthropy). In other forms, the objective is to change corporate policies and products. The latter forms include marketing agreements to differentiate products (certificating, licensing, branding), dialogue and training to improve corporate policies and procedures (knowledge transfer), and joint research and product development. Thus, social alliances are oriented toward stimulating alternatives, rather than toward protesting against the current order. They may nevertheless have far reaching consequences; they may, for example, change markets, policy schemes, and individual lifestyles (Schneidewind & Petersen, 1998).

Den Hond and De Bakker (2007) argue that in such situations activist groups can only be successful if they are able to convince the firm of the benefits of collaboration. Differences in language, culture, goal orientation, or values and ideologies may constrain either party to engage in collaborative engagements (Googins & Rochlin, 2000). Overcoming such differences is essential for collaboration to succeed, but may be easier for business firms than for activist groups. Whereas corporations need to accept that something can be learned from a nontraditional partner—the value of which can ultimately be expressed in increased profits or stock prices, and which thus favors a pragmatist approach to potential collaborations—activist groups need to internalize corporate interests in order to be able realize (part of) their objectives—but ideological or moral considerations may limit their preparedness to do so. For example, when collaborating, "corporations make it more difficult for [activist] groups to raise problems in other areas" (Holzer in press). Engaging with a profit-oriented partner may thus compromise support from their constituency or taint their reputation in the community of activist groups (Westley & Vredenburg, 1991).

NEW BUSINESS SYSTEMS: IF YOU CANNOT CHANGE THEM, BYPASS THEM!

Finally, if working with or against current firms is not seen as an option to achieve the activist groups' objectives, a final mechanism of influence could be to step out of the dominant business systems. Creating alternative business systems provides the opportunity to establish new norms and standards that better fit the objectives of the activist group. For example, in the first half of the 19th century, the idea of a cooperative was explored. Since then, various sorts of workers', consumers', and producers' cooperatives have been set up to counter corporate power in areas such as agriculture, finance, and retail resulting in, for instance, cooperative sugar refineries, banks, and supermarkets (Williams, 2007).

Today, activist groups may choose to develop alternative business systems to avoid the risk of cooptation or to dem-

onstrate the viability of their alternative ideas. Bypassing the current economic system may be particularly attractive to radical activist groups, as they morally reject the practices of existing firms (Den Hond & De Bakker, 2007). It may imply a radical transformation in the ownership structure or the development of an alternative economic entity. One example is the development of local exchange trade schemes (LETS), which “operate as an alternative (local) market for the members’ goods and services” (Crowther, Greene, & Hosking, 2002, p. 355).⁴ Another example is in the many Fair Trade initiatives that have been developed since the 1940s.⁵ As Shreck (2005) notes, “The Fair Trade movement critiques the conventional agro-food system . . . through alternative trade channels that are more equitable than those typical of conventional trade network” (p. 17). Rejecting current practices and trying to overcome their constraints should result in more equal trading agreements. Although Fair Trade has become an umbrella term for a variety of initiatives and approaches, most of these initiatives demonstrate some characteristics of alternative business systems.

Another form of new business systems is found in social enterprises. These enterprises are organizations that link their activities to a social mission; they form a business-like contrast to traditional nonprofit organizations (Dart, 2004). A wide variety of examples can be found in the literature which range from labor cooperatives to neighborhood development projects (Borzaga & Defourny, 2001). In some of these enterprises, governments are heavily involved, whereas in others cooperation with existing firms is actively sought.

A subset of social enterprises is the community enterprises as they have developed in the United Kingdom. In a sense, community enterprises may be seen as being situated somewhere in between new business systems and partnerships, but with significantly stronger links to local communities. They are often aimed at the regeneration of local initiatives and involve the participation of key constituents in the management and governance of the enterprise (Tracey, Phillips, & Haugh, 2005). This position in these enterprises allows these constituents to exert significant influence.

DISCUSSION

This section discusses our findings in two parts: first we highlight the efficacy of the different tactics used, and then we discuss whether the way in which activist groups deploy these tactics today is any different from earlier periods in time.

How About Efficacy?

So far we have discussed four mechanisms that constitute a broad set of methods through which activist groups try to influence corporate decision making. But how about their efficacy? Some caveats have to be made before we

address this question. It should be noticed, first, that to date—*grosso modo*—systematic, comparative research is lacking. There is some anecdotal evidence but few systematic case studies, and there is ground for suspicion that research attention has predominantly focused on the more visible instances of activism vis-à-vis firms. Second, efficacy of activism is notoriously difficult to operationalize and measure (Giugni, 1998), as indicated by the discussion of using the withdrawal of a shareholder proxy voting resolution as an indicator of success—what precisely is the deal usually remains undisclosed. One reason for making operational and measuring the efficacy of activism is that it may well be moderated by context and depend on contingencies. It has, for example, been suggested that industry structure—the economic, organizational, and cultural features that function to enhance or constrain activist groups’ efforts to change industry behavior (Schurman, 2004)—is a relevant factor, but contingencies, such as changes in board membership or sudden rises or declines in profits, may also impart the efficacy of their efforts. Such opportunities may affect the working of different activist groups in different ways. Another reason is that multiple factors, among which activism is one, can be involved in producing social change. For example, activism against corporate involvement with apartheid in South Africa may not in itself have resulted in the abolishment of apartheid, nor given the final blow to the regime, but it has certainly been an important element in the overall movement (Seidman, 2003). Third, whereas some activist groups specialize in employing particular tactics—for example, some religious groups in filing shareholder resolutions—other activist groups, individually or in a joint and coordinated way, combine the use of various tactics in a particular campaign, and hence try to gain leverage through different influence mechanisms. Consequently, it will be difficult to relate the employment of particular tactics to their efficacy. Finally, efficacy is a concept that to some extent is difficult to match to the type of organizations and the type of actions we discussed in this chapter, because the use of particular tactics may be more related to activist groups’ wish or need to confirm their social identity or express their ideology than to result in change (Rowley & Moldoveanu, 2003; Den Hond & De Bakker, 2007). For these reasons, the following discussion should be treated with caution.

One tentative conclusion, on the use of corporate governance as a mechanism for leveraging activists’ claims, is that in certain circumstances, business strategies have successfully changed, but that overall it is probably only having marginal effects (Waygood & Wehnmeyer, 2003). Regarding socially responsible investments, the value of portfolios has dramatically increased, but it remains a very small portion of overall invested assets (cf. Vogel, 2005). Regarding the cost and benefits mechanism, there is anecdotal evidence of instances of success and failure of particular protest events and campaigns. Beyond that, and in the absence of systematic evidence, there is perhaps the suggestion that public opinion tactics can be more effective

than marketplace tactics. Sometimes, even the mere threat of activism suffices to influence firms, arguably even in situations where the threat is not made public.⁶

A similar evaluation could be made regarding social alliances: although we found very few instances of failed alliances, the lack of failures cannot be taken as a sign of efficacy but can perhaps better be considered as an indication of selection bias toward successful alliances, both in research and in activists' and firms' publicity, as neither party would want to be associated with failures. Finally, there is some paradox in the efficacy of new business systems. Although for some forms of new business systems—LETS, for example—survival may be the only meaningful indicator of success, for most other forms—cooperatives, fair trade initiatives, social enterprises, community enterprises—the realization of any social ambitions depends on their integration in regular economic life. Although fair trade is sometimes considered to make substantial impact because of its high growth rates (e.g., coffee and cocoa), Carducci (2006) notes that the share of the world market remains marginal. Similarly, Levi and Linton (2003) suggest that fair trade coffee campaigns have improved the lives of small-scale coffee farmers but serious barriers exist for expansion beyond the small niche of “ethical” coffee drinkers. Success of new business systems therefore might be fairly relative.

Few studies have tried to directly establish the efficacy of private politics. One recent exception is the King and Soule (forthcoming) study into the effects of protest on stock price. Another is Eesley and Lenox's (2006) analysis of over 600 stakeholder group actions in the United States during 1971–2003. They find evidence that *in general* confrontational tactics such as boycotts, protests, and lawsuits are more effective than less confrontational tactics, such as letter-writing campaigns or proxy votes, as they impose costs on the targeted firm. But they also suggest that the choice of tactics can be restrained, and that tactics that appear to be less effective in general may work well for *particular* groups (Eesley & Lenox, 2006). Such studies are ambitious and groundbreaking and suggest that there is a need for a more systematic analysis (e.g., comparing different influence mechanisms, different periods of time, or the interplay between different forms of activism), but they must be done carefully to take into account the consequences of the combined or consecutive use of different tactics.

How Different Is the Present From the Past?

The second issue we want to discuss is whether today's activism is really that different from earlier forms. Some authors argue that it is. One important element in their argument is the rise of the Internet and other digital communication networks. According to Bennett (2003), these technologies have been instrumental in the emergence of a new form of global activism characterized by a loose network structure and weak identity ties among its participants, but

also by the ability to swiftly and continuously regroup and refigure itself around shifting issues, protest events, and political adversaries. Beyond reducing the costs of communication—between activist groups themselves and between them and their audiences—and of coordination over time and space, the Internet facilitates permanent campaigns, collaboration between parties who hardly know each other and share little social identity or ideology, and direct access to mass media for individual activists (Bennett, 2003). It is “the largest meeting place of all” (van Rooy, 2004, p. 16). Based on two case studies of activism, Coombs (1998) argues that the Internet is a potential equalizer of power difference between activist groups and firms, because it increases the density of the network ties around the targeted firm, increases the network centrality of the activist groups, and reduces the network centrality of the targeted firm (cf. Rowley, 1997). Thus, in comparison to the situation before the Internet became widely available, “the Internet can be a useful tool for changing the activist group's standing in the organization's stakeholder network. In turn, the power dynamic shifts making the activists and their concerns more salient to an organization” (Coombs, 1998, p. 299). The availability of the Internet has therefore enabled protest and to some extent been instrumental in changing power relations between firms and their stakeholders.

A second important element is the rise of globalization. Globalization can be defined as “the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa” (Giddens, 1991, p. 64). It has different aspects: cultural, economic, financial, political, environmental, and criminal, to name but a few. Economic globalization is argued to have been enhanced significantly by the political leaderships of Margaret Thatcher and Ronald Reagan. Since these days, there has been a greater reluctance of nation states to directly interfere in national and international market regimes. Nationally, much social and environmental regulation has been allegedly left to the market, for example, through the stimulation of industry self-regulation, corporate social responsibility, and conscious consumer choice. Internationally, there has been a significant rise in the clout of international trade regimes and multiparty agreements, such as the World Trade Organization (WTO), the International Monetary Fund, and the World Bank, with a strong focus on free trade. Solutions to many problems were sought in the market.

Corporations have therefore not only been able to increase the geographical scale of their operations—as exemplified by increasingly international supply chains and market penetrations by Western multinational corporation—but also have experienced lessened political control over their national and international operations. Increasing numbers of corporations operate in multiple countries under different jurisdictions, thus allowing them to select favorable regulatory and competitive environments, potentially resulting in a race to the bottom. Many of them relocate or outsource production to low-wage countries (China, India, etc.), and

it is not uncommon practice to influence political decision making in order to create more favorable business conditions often at the expense of other stakeholders' interests. In hyperbolic language, firms are taking over the world, filling in the void that retreating governments have left (Hertz, 2001).

Culturally—and in tandem with enhanced communication and information technologies—globalization has also resulted in a greater awareness of the “delusions of global capitalism” (Gray, 1998). Consequently, this has led to a broader focus of activist groups beyond the local and the national: they also want to change the frames that the public and decision makers use to make sense of global issues, change the specific policies and practices of global institutions, and support the reform of those institutions (van Rooy, 2004). This ambition for change pertains not only to international trade regimes and the underrepresentation of some interests therein, but also to the notion of the corporation. It has resulted in the invention of “alternative summits” hosted by networks of activist groups in parallel to “official” summits as organized by, for example, WTO and G7.⁷ A prominent example of this arguably new organizational form is the World Social Forum, initially organized in opposition to the yearly World Global Forum in Davos, Switzerland, but now having gained a life of its own.

Apparently, there was a change in context—globalization—and a new enabling, facilitating condition—the Internet—that in combination may account for the apparent shift in the intensity and nature of activism against firms. But of course things don't change overnight; the rise of communication and information technologies as well as the advent of globalizations are developments that took place over decades. However, if a particular, relatively short period of time is to be pointed out, it could be argued that during the 1990s, a major shift took place in awareness of the relevance of these broader trends. And perhaps, the events around the WTO ministerial meetings in Seattle in November of 1999 could be seen as a culmination of these developments, because of the broad media coverage of the protests that brought to the fore the force of the antiglobalist movement's arguments and its versatility in the use of the newly available technologies.

However, from another point of view, there clearly is continuity in how activist groups try to influence companies. For example, if the “Battle of Seattle” was a culmination point, its manifestation in Seattle builds on a long and strong local tradition of anticapitalist protest and mobilization (Levi & Olson, 2000). And if the “dot.cause” corporate watchdogs that appeared on the Internet because of the new communication and information technologies, it should be acknowledged that their activities build on a much longer tradition of critically monitoring corporate behavior by activist groups; the corporate campaign was “invented” during the 1960s by U.S. unions desperate for members (Manheim, 2001). Further, consumer boycotts were organized already a century ago (Friedman, 1999) and shareholder activism on social issues emerged a half a cen-

tury ago (Marens, 2002). And although it could be argued that the rise of the Internet and other digital communication networks has made activist groups less dependent on traditional mass media, they still have to make use of traditional mass media, too. The Internet is a highly effective tool “to gather and spread information for those who not only have the technical facilities but also know what they are looking for” (Rucht, 2004, p. 30).

CONCLUSION

All in all, we would argue that since the 1990s, anticorporate activism may have developed a distinct flavor, drawing from an increasingly globalized context, and facilitated, perhaps even empowered, by new (networked) communication and information technologies. As corporations have expanded their geographical reach, but arguably are being less controlled or constrained in their activities, activists have started to look for tactics that could match these new conditions. For example, in a “boomerang effect” (Keck & Sikkink, 1998), local protests against poor labor conditions in the overseas—Third World—supply chains of major multinationals (Nike, the Gap, Starbucks, etc.), gained enormous leverage when Western groups started to campaign in Western markets to improving the working conditions of those employed in the overseas “sweatshops.”

However, when considering the mechanisms through which activist groups try to influence corporations, there appears to be considerable continuity. In cases such as Nike, shareholder resolutions are formulated, boycotts are organized, the firm's reputation is tarnished, law suits are filed, and alternative sources of supply are being developed (e.g., Adbusters' Blackspot sneaker).⁸ Although new forms of expression may have been found, the modern anticorporate campaign is built on mechanisms that have been in use for decades. The most recent mechanism appears to have been the least confrontational, the social alliance, legitimized and popularized in connotation with the concept of sustainable development.

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NOTES

1. Of course, costs and benefits are implicated in each of the mechanisms identified. However, the efficacy of the other mechanisms does not depend on their influence on the bottom line. For

example, although collaboration—the third mechanism—may be profitable, it is started because the parties involved trust and respect each other, and not knowing the results of the collaboration beforehand, are willing to share the associated risk. It is primarily a relational mechanism, not an economic calculus. Similarly, the governance mechanism is fundamentally a principle–agent mechanism, which may, or may not, have implications for the firm’s bottom line.

2. And then the fifth and sixth mechanisms would be lobbying for new legislation and legal action. However, we consider a discussion of these mechanisms beyond the objectives of our work here, as we explained before.

3. On its Web site, CERES presents itself as “a national network of investors, environmental organizations and other public interest groups working with companies and investors to address sustainability challenges such as global climate change” (<http://www.ceres.org/ceres/>, accessed 19 August 2007).

4. LETS was invented in Canada in 1983 by Michael Lenton (Bowring 1998).

5. The European Fair Trade Association traces back the origins of the fair trade movement to the 1940s; the first “Worldshop” appears to have been founded by Oxfam (U.K.) in the late 1950s (<http://www.european-fair-trade-association.org/Efta/Doc/History.pdf>, accessed 18 August 2007).

6. This could be seen as a gun-behind-the-door tactic on the side of the activists. This type of tactic is hard to grasp in research. Thanks to Michelle Michelletti for this suggestion.

7. Apparently, the model of the alternative, or parallel, summit was first explored by T.O.E.S.—The Other Economic Summit—in London, 1984, at the occasion of the G7 summit.

8. Adbusters. (2007). The Blackspot sneaker. Retrieved August 17, 2007, from <http://adbusters.org/metaspot/corpo/blackspotshoes/home.php>

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GLOBAL BUSINESS CITIZENSHIP

A Model of Social Responsibility and Ethical Behavior for the 21st Century

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Corporations often claim to be socially responsible and “good citizens,” and stakeholders typically want them to act this way. But what does this mean, especially in the fast-paced global economy of the 21st century? The goals of this chapter are to provide an explanation of “global business citizenship” as the 21st-century adaptation of corporate social responsibility. A “global business citizen” is defined as an enterprise that responsibly implements its duties to individuals and societies within and across national and cultural borders (Wood, Logsdon, Lewellyn, & Davenport, 2006). The ultimate aim of the theory of business citizenship, which is grounded in political theory and business ethics, is to illuminate the structural and moral ties among business organizations, human beings, and social institutions and offer guidance on the rights and responsibilities accruing to business organizations in the global environment.

The chapter begins by briefly examining the challenges to the 20th-century concept of corporate social responsibility (CSR) in the 21st century. Then it describes how the concept of citizenship for individual persons can be translated to citizenship for business organizations and how the

local and national arenas of citizenship can be expanded to incorporate new global realities. Finally, the process of implementing global business citizenship (GBC) is explained in a four-step model.

CORPORATE SOCIAL RESPONSIBILITY IN THE 20TH CENTURY

Although the elements of the concept and some practices of CSR had existed in the first half of the 20th century (e.g., Dodd, 1932; Heald, 1970), the term was initially popularized in the 1950s and 1960s to promote voluntary community programs and business self-regulation that addresses social concerns and creates a better society (Bowen, 1953; Frederick, 1986). Much of the scholarly literature through the 1970s focused on the debate with neoclassical economists about whether firms had responsibilities beyond a narrow economic mandate to maximize profits for the shareholders, and if so, how these responsibilities were to be defined and understood (e.g., Carroll, 1979; Preston & Post, 1975; Votaw & Sethi, 1973). Meanwhile, the public

and many executives supported CSR as a means to deal with equal opportunity, urban decay, environmental pollution, worker and product safety, and other social issues.

During the last 2 decades of the 20th century, the early strong flavor of CSR—the idea that business could and should contribute to a more just and healthy society—began to be ignored as the economic environment shifted to high inflation and interest rates, declining international competitiveness, and growing costs to comply with increasing government regulations. The backlash against CSR reflected the free-market conservative rhetoric of the “Reagan/Thatcher Revolution” of the 1980s. Executives were urged to focus on short-term profitability in order to increase stock prices rather than consider the welfare of all groups affected by their decisions. Downsizing, reengineering, and outsourcing broke the bonds that firms had formerly developed with employees, communities, and suppliers.

Ironically or perhaps providentially, it was during this period that business ethics began to emerge in scholarly and popular business literature as a major topic to address the growing mistrust of executives by the public. As government’s role in regulating business behavior diminished, what standards would managers apply when making decisions? The concept of the “stakeholder” also became widespread to capture the notion that firms were faced with many issues and interest groups beyond the traditional shareholder, employee, and consumer relationships (Freeman, 1984; Clarkson, 1998).

In the 1990s, corporate and scholarly attention shifted from the concept of CSR to favor the idea of “corporate citizenship.” Funding initiatives, conferences, awards programs, and research by major institutions such as the Conference Board (Alpers, 1995) and the Hitachi Foundation (Logan, Roy, & Regelbrugge, 1997) pointed to interest in corporate citizenship as a vehicle for corporate involvement in communities and social change. Academic research identified corporate citizenship as a new concept by progressive corporations to contribute to society and often as a new term to replace CSR, which had been criticized as difficult to define and measure (e.g., McIntosh, Leipziger, Jones, & Coleman, 1998; Tichy, McGill, & St. Clair, 1997). Corporate executives preferred the term corporate citizenship over CSR.

Many uses of the term corporate citizenship focused almost exclusively on corporate-community relations, rather than on the broad responsiveness to societal needs and expectations that were embodied in CSR (Burke, 1999). (See Wood & Logsdon, 2001 for a comparison of corporate social responsibility and corporate citizenship.) Philanthropic contributions and voluntary initiatives characterize the “good corporate citizen.” However, what is often lost in shifting from corporate social responsibility to corporate citizenship is the broad ethics-based and problem-solving norms of social reciprocity that must be incorporated into business thinking in the 21st century. A new term, “global

business citizenship” (GBC) has been proposed to incorporate the core moral and social content of CSR and place corporate-community relations and philanthropy among the larger set of rights, duties, and stakeholder relationships emerging from the citizenship concept (Wood & Logsdon, 2002a; Logsdon & Wood, 2002).

EMERGING 21ST-CENTURY CHALLENGES

While international trade has existed for centuries, the forces to create a truly global economy challenge the very identity of business organizations and call into question the structures and institutions for social control that fit 20th-century industries and economies. Three of these forces are described here: global competitive pressures ratcheting up the pace of change; the declining capacity for governments to deal with social and environmental needs; and increasing expectations from global stakeholder groups. (See Wood, Logsdon, Lewellyn, & Davenport, 2006, chapter 2, for further analysis of these and related forces.)

Technological “creative destruction” has always threatened mature industries with pressures for cost reduction and innovations to replace products and processes. In the 21st century, the pace of technological change with its drive to create “disruptive technologies” has become so rapid that products often do not have sufficient life cycles in which the producer can recoup research and development (R&D) costs. The search for cost-reduction strategies has pressured companies to use suppliers from faraway parts of the globe or open their own plants there. Outsourcing is becoming part of the initial business plan for new enterprises. The older concept of CSR, which developed in a period of high economic stability and relatively low international competitive pressures, is not adequately developed to deal with rapid turbulence, instability, and cross-cultural differences.

In the past, the rules and norms of business behavior in most industries were primarily guided by national cultures, social institutions, and legal parameters. Companies typically had a home country and an organizational identity shaped by the home culture. In a global economy, a particular set of cultural norms are likely to have less influence, and national governments have less leverage because corporations have many choices about where to do business. Pressures to minimize the costs of doing business include the costs of complying with regulations and social expectations. Thus, even basic legal responsibilities are likely to be minimized as some firms “shop around” for lax rules or enforcement.

A third force relates to increasing stakeholder expectations for ethical and responsible behavior, coupled with greater power to call attention to their needs and claims. Information is more widely available through instant global communication so company policies and practices in one locale can be easily compared to those in other locations.

More powerful stakeholder groups in one country can lend support to the complaints of less powerful stakeholders in another country. Media are eager to fill the 24/7 news cycle with corporate crises and scandals to capture audience ratings. The traditional scope of CSR attention was on home-country stakeholders. Executives have had little guidance on how to expand CSR to incorporate all stakeholder interests.

The concept of citizenship holds valuable insights to expand and refine the fundamental elements of CSR into a philosophy to deal with 21st-century challenges.

THE NATURE OF CITIZENSHIP

The concept of citizenship is typically associated with individual persons and their status of membership in a political unit. Citizenship in a democracy involves participation in electing political leaders and protections based upon rights guaranteed by the political and legal constitutions of the polity. Most rights involve freedom from interference and freedom from harm. For example, the U.S. Constitution has a Bill of Rights that specifies rights of the citizens to freedom of speech and freedom of assembly, and the right against self-incrimination, among others.

Citizens also have duties, such as the duty to pay taxes and to serve in the military in many nations. Rules about when rights and duties apply to the citizen are determined by the political jurisdiction. For example, in the United States, the citizen's right to vote and the duty for male citizens to register for military service occur at age 18. The right to representation at trial is granted to every citizen, regardless of age.

Another facet of citizenship is the formation of individual identity as a citizen of a particular place, which is bound up with the nature and history of the community and nation. Boundaries and rules of membership are highly significant, and the obligation to favor one's own community over others becomes justifiable and, in heavily socialized cultures, is sometimes even required.

Considerable debate and often concern have focused on the questions of whether businesses can be and should be citizens in the same way that individual persons are. For example, should corporations have the same rights to free speech as individual citizens? Do they have the same duties? How are rules made for corporations that operate in many different political jurisdictions? If corporations have business dealings in many parts of the world, are they citizens everywhere they do business? As a way to begin to address these questions, the concept of GBC provides a framework in which to examine individual and organizational citizen status.

GLOBAL BUSINESS CITIZENSHIP (GBC)

Because citizenship is ordinarily a status of *persons in a place*, we need to examine two shifts in the level of analysis to arrive at GBC. That is, we need to move conceptually

- from the individual person to the business organization as citizen, and
- from the local polity to a global setting.

Table 14.1 illustrates the four states of citizenship that exist when one considers (a) individual persons and organizations as units of analysis, and (b) local scope or global scope as levels of analysis. Individual persons can be local citizens of a polity and/or global citizens of the planet. Similarly, organizations can be "corporate citizens" tied to a particular culture or polity or they can be "global citizens," acting responsibly within and across polities.

The Local Citizen

Cell 1 represents the ordinary meaning of citizen as a person who holds a legal relationship to and often a national or cultural identity with a specific "local" polity such as a town or city, state or province, nation, or supranational/regional grouping like the European Union (EU). Citizenship is defined by the rules of that polity, which normally specify what relationship exists between the interests of persons and the polity as well as the rights and duties that accompany citizenship. Individuals typically are citizens of

Table 14.1 Four States of Citizenship

Unit of Analysis	Level of Analysis	
	Local, Community, or National Scope	Global or Universal Scope
The Individual Person as Citizen	Cell 1: The Local Citizen Key issues: Relationship of the person to the state; rights & duties of citizens, including fundamental civil liberties; national and cultural identity.	Cell 3: The Global Citizen Key issues: Common humanity, interdependence, universalism grounded in a few key rules or laws. Based upon philosophical ideas and social/institutional realities.
The Business Organization as Citizen	Cell 2: The Corporate Citizen Key issues: Business as a responsible player in its local environments. Emphasis on voluntarism and charity, as well as the organization's rights and duties in and for the community. Organizational identity reflects culture.	Cell 4: The Business Citizen Key issues: Business as a responsible local and global actor. Emphasis on the organization's rights and duties to individuals and to societies within and across national/cultural borders.

SOURCES: Adapted from Wood and Logsdon, 2001; Wood, Logsdon, Lewellyn, and Davenport, 2006, p. 38.

a variety of polities at various levels of government (town, state, country, region), and some are even privileged to have dual national citizenships.

In modern political democracies, the government exists to serve citizens and is seen as an entity that guarantees the baseline conditions for acceptable human life in communities. Citizens are typically granted a bundle of civil and political rights (voting, due process, individual liberties), and they are expected to fulfill duties such as those Aristotle named so long ago: paying taxes, participating in political affairs, and helping to defend the government from its enemies through military or other service.

The Corporate Citizen

Despite the concerns raised earlier, it is not a leap of faith to think of business organizations as citizens of local communities or of nations, as in Cell 2. This is the fundamental perspective underlying current ideas about “corporate citizenship.” A corporate citizen is a business organization that is a responsible player in its local environment. Its community activities emphasize voluntarism and charity, not rights and duties, and the organization’s social identity tends to reflect the local culture.

The duties of citizenship need not be spelled out exactly in order to exist. That is, both individual and corporate citizens may be expected to fulfill some citizenship role without having that role specified precisely. The idea is to give back *something* relevant and significant in support of a long-term viable relationship between government and its citizens. Corporations that want to be “good citizens” have community-outreach initiatives that are intended to improve the quality of life of human citizens that include the workforce, customers, and other stakeholders. The employees may volunteer in community projects, and the firm may make financial contributions to the local schools or nonprofit arts organizations. In these ways, it demonstrates its willingness to give back to the community in which it operates.

The Global Citizen

Cell 3 refers to the history of ideas concerning individuals as “citizens of the world.” The global citizen is a person who holds a relationship to all peoples, regardless of polity, based on ideas of common humanity, interdependence, and universalism and grounded in a few key rules or laws concerning universal rights and duties of persons to each other. When one begins to travel outside his or her own community, this awareness tends to develop or is strengthened.

By the late 20th century, technological advances in communications and transportation had made it possible for billions of people around the globe to observe the same events contemporaneously, watch the same entertainment, eat the same food, experience the same disasters, and to some extent develop a shared understanding of their common humanity. An understanding of the commonalities among

peoples of different cultures rather than a focus on the differences between them gives one the sense of belonging to a larger human community and provincial thinking fades.

After World War II, the United Nations (UN) Declaration of Human Rights provided a common language of rights that has shaped national and international relations since that time. Having a common language of rights and a concept of universal “citizenship” gives credence and power to nongovernmental mechanisms of social control that can override the politics of national sovereignty. In particular, cross-national market pressures of consumption and investment, along with global media attention and risks to reputation, have come to the fore as viable social control mechanisms in the hands of global stakeholders concerned with human rights violations in sovereign nations.

The Global Business Citizen

Finally, in Cell 4, a global business citizen is not just Swiss, Chinese, American, or Brazilian—it is a company that thinks globally and tailors its actions to local conditions within the boundaries of ethical principles. Here, similarly to the global individual citizen, business organizations are considered citizens of the world with corresponding rights and responsibilities along with having citizenship status in the places where it operates. To reiterate the definition, *a global business citizen is a business enterprise (including its managers) that responsibly exercises its rights and implements its duties to individuals, stakeholders, and societies within and across national and cultural borders.*

But what type of citizen can a company be? Are there different approaches to citizenship for a company? Yes, as we explain in the next section.

THREE APPROACHES TO CITIZENSHIP

When a company says it is a “good citizen,” what does that mean? Political theory offers a variety of meanings and types of citizenship, but recent scholarship has focused on three relevant approaches to citizenship: the minimalist theory of civic association, the communitarian model, and the universal principles perspective (Parry, 1991). These are useful in sorting out practical and ideological differences in relationships among persons, organizations, communities, and polities. To illustrate the differences among these three approaches, we use an example of how a business might define and respond to a pollution problem within each of these perspectives.

Minimalist Citizenship: A Status of Convenience

The minimalist theory of civic association values individual liberty and the pursuit of self-interest above all. The minimalist acknowledges that some restraints are necessary to keep others from infringing on one’s right to liberty, but restraints must be kept to a minimum, thus the name of this

approach. To the minimalist, civic associations form when residents of a common jurisdiction recognize and agree to certain rules that regulate their conduct. Social units (like governments) exist because they are essential for individual survival, but social bonds are viewed as weak. Compliance with laws is seen as contributing to the achievement of one's personal goals, and citizenship is viewed as a status of convenience as long as it serves the individual's self-interests and liberty.

Civic association is not to be confused with community, which has the special meaning of shared interests and interdependence. The moral relationship among citizens in a civic association requires the right to justice and equal treatment under law. These rights could be put into effect as basic legal rights such as the right to protection from robbers, the right to legal representation, and so on. Rights evolve and are extended to more groups only as the association discovers intolerable problems that are not dealt with effectively under the more constricted system of rights. This essentially libertarian view of citizenship requires equal treatment in terms of "negative rights"—that is, the right of citizens to pursue their own interests without interference. This approach permits citizen participation in rule making but has no penalties for citizens who do not participate.

Minimalism has a direct counterpart in the stockholder view of the firm. Contracts—among persons who freely enter into them with full knowledge—form the assumed structure of business transactions in the minimalist perspective. The firm itself is not a real entity but is merely a "nexus of contracts" among suppliers of various inputs whose rights are negotiated as part of their contracts with the firm. In this view, shareholders provide capital and acquire property ownership. Management's role is to coordinate the negotiating process among the various input providers, acting as agents for the shareholder-principals. Shareholders are vulnerable because their delegation of power to agent-managers leaves them with high monitoring and control costs and a subsequent higher risk that managers will succumb to temptation and act in their own interest instead of in the interest of the shareholders. Corporation law, in this view, exists largely to protect the shareholders from managerial opportunism, but only as a supplement to market forces, that is, as a correction to the rare market failure (Wood & Logsdon, 2001).

Managers operating with the minimalist perspective seek the lowest cost of production in order to maximize profit. They would prefer not to spend money to control pollution, but rather dump it into the air, water, or land. If other members of the polity sue because the waste is a nuisance or make a convincing case that their rights are being violated, managers will either install the minimum pollution-control equipment or they will relocate. A minimalist person or company has no loyalty or attachment to the civic association.

Simply put, in a minimalist world, a business organization is merely a shell within which individual sales, employment, and investment contracts are negotiated and fulfilled.

If and only if the principals (in capitalist organizations, the shareholders) perceive it to be in their self-interest, they may direct the organization to act in particular citizen-like ways such as contributing to charity or participating in a community event. The language of citizenship might even be used, but the motivation is not to provide a collective good or to contribute to society's well-being, but only to achieve a private end. The organization itself cannot "be" a citizen, analogous to individual persons, in the minimalist approach.

Communitarian Citizenship: One for All

Communitarian reasoning embeds citizens in a particular social context, rather than viewing them as essentially autonomous, detached decision makers and actors as the other two models do. One's personal identity is bound up with the nature and history of one's community, culture, or country. Boundaries and rules of membership become highly significant, and the obligation to consider one's own community as more important than other communities becomes justifiable and perhaps even required.

Citizens of the community have a duty to participate in making rules about membership and conduct and in carrying them out in order to preserve the distinctive culture of the community. According to the communitarian view, rights have been overemphasized in some nations, such as in the United States, to the detriment of collective well-being, but the citizens' duties to the community are just as important as rights, if not more. In addition, communitarians recognize that guaranteeing rights is costly and time-consuming, and thus more stringent requirements for citizenship can make sense in political-economic terms. A communitarian society typically limits membership to "our" people, however defined.

The business organization in the communitarian view is not an empty shell or a mere "nexus of contracts," but a tangible and functioning member of a community, distinguishable from the individuals who own and work for the organization. Business organizations are entities that emerge to help the community and are expected to act in the community's interest as a duty of membership. And, indeed, the business organization *wants* to act in the community's interest because the community gives meaning to what the organization is and does.

In some ways this view is compatible with early definitions of corporate social responsibility—the idea that businesses should be responsible for how the benefits and harms of their actions are distributed. In addition, the communitarian view is consistent with the concept of corporate citizenship when it is focused exclusively on the concerns and welfare of specific communities (Wood & Logsdon, 2001).

A communitarian firm's response to pollution would take into account its community's understandings and norms about collective well-being. Such a firm would likely exercise willingly a duty not to harm the community. However, a communitarian approach to pollution control

would be limited to its own specific community and would not include other communities where it does business but is not a member. Thus, a communitarian company-citizen might well keep local waters clean in its home community by putting its wastewater in the streams or sewers of other communities.

Citizenship Based on Universal Principles

The universal principles perspective, a third prevalent view of citizenship, is based on the moral assumption of rights as necessary for the achievement of human agency—defined as the freedom to pursue one’s interests. Citizens with this view see the primary role of government as securing and protecting these conditions of human agency, not just for oneself, but for every individual. Not only must the state protect negative rights of noninterference—those guarantees of human liberty such as protection of the right to free speech and assembly and the right to vote—but it must also identify and protect positive rights that must be provided in order to achieve autonomous human action, such as the right to education and the right to health care. A critical issue in this perspective is the possibility and process of arriving at a set of common values and related rights and duties that can be supported across cultural boundaries and perhaps political ones as well.

Individuals and societies delegate to business organizations much of their ability to achieve their diverse wants and needs, and they must therefore also give organizations a degree of freedom from direct and constant control. Privately owned organizations are given many important tasks needed by the society, such as job creation, economic growth, R&D, and provision of consumer goods. Organizations do not have rights and privileges identical to those of individual persons, but they do have limited rights and associated duties so that they can achieve these goals. The rights and privileges granted to business citizens are those needed to permit the organization to act appropriately as agents of people and societies. Ethical values and mechanisms of social control, such as honesty, trust, and rule of law are ways of structuring relationships and exchanges so that uncertainty is reduced and efficiency can be enhanced. The global business citizen integrates these basic ethical values and mechanisms of social control into its internal ways of making decisions and uses them as guidance everywhere they operate.

A universalist firm would likely enact a duty for all people and all communities to minimize pollution wherever its harms are experienced. Such a firm would not dispose of its waste in an unsafe manner in any community. It would recognize the legitimate need for efficient government regulation to protect humans and the environment from externalities and other market failures. Recycling, reclamation, and redesign to minimize waste in the first place would be preferred ways of addressing pollution problems even if local regulations do not require this degree of pollution control (Wood et al. 2006).

COMPARING VIEWS OF CITIZENSHIP

It is interesting that although the minimalist position and the universal-principles view seem to be far apart in perspective, they are united in their support of human autonomy and certain rights for citizens. They differ in the means acceptable to reach this desirable end. The minimalist view tends toward a “least government” approach, while the universal-principles view is more willing to accept the validity of government action to ensure rights. In contrast to both, the communitarian position does not emphasize individual liberty above all, preferring to balance concerns for liberty with concerns for the collective well-being. In addition, a communitarian society might have more or less government, depending on what the community believes is needed to enforce rights and duties in its particular context.

Business organizations are viewed very differently in the three approaches to citizenship. Businesses in the minimalist view are just shells within which various actors (investors, employees, customers, suppliers) engage in contracts to pursue their own interests. The organization itself cannot be a citizen in this view. By contrast, firms in the communitarian perspective *are* citizens in the sense of identifying with their home community and supporting its well-being. “Corporate citizen” is an appropriate term for a firm operating on communitarian assumptions. Finally, a firm that operates according to a universal-principles view of citizenship is one that can claim the name of “global business citizen” from Cell 4 in Table 14.1. Such a company “thinks globally and acts locally” by having basic ethical values that apply everywhere it operates and by implementing those values in a manner consistent with and respectful of legitimate local cultural differences. (See Wood & Logsdon, 2001, 2002a; Logsdon & Wood, 2002, for further explanation of the comparisons between these approaches.)

THE PROCESS OF GLOBAL BUSINESS CITIZENSHIP (GBC)

Multinational enterprises are not bound by the rules of a single community but are challenged to deal with differences among community norms, rules, and performance expectations. The traditional view is that corporations should conform to local practice by always following local laws and customs—“when in Rome. . . .” An alternative view has emerged over the past quarter-century that companies should apply uniform policies across their worldwide operations. Both of these approaches have weaknesses, but together they contain the seeds of an optimal hybrid strategy.

What does it mean in the modern world to argue that businesses are members of *society* and are thus subject to societal-based social controls? Is this a viable idea in a world where virtually all the factors of production move freely among nations and cultures?

Business citizenship defines a business organization’s relationship to nation-states, to other organizations, and to

Table 14.2 Strategic Approach to International Business and Degree of Ethical Certainty*

Degree of Ethical Certainty	Approach to Strategy	
	Multidomestic	Globally Integrated
High Certainty: Principles—a limited number of basic universal principles.	(Ethical relativism)	Step 1: Code of Conduct
Moderate Certainty: Consistent norms and acceptable local variations.	Step 2: Local Implementation	(Ethical imperialism)
Low Certainty: Norms that are incompletely governed or ungoverned by, or appear to be in conflict with, principles.	Step 3: Analysis & Experimentation	Step 4: Systematic and Systemic Learning

SOURCES: Adapted from Logsdon and Wood, 2002; Wood, Logsdon, Lewellyn, and Davenport, 2006, p. 47.

human beings. It is thus an *ethical* enterprise. But in this diverse world, which ethics—whose ethics—should prevail? GBC addresses this question by acknowledging varying degrees of ethical certainty about what is the right thing to do. A global business citizen accepts a limited number of basic universal principles, such as, “It is wrong to harm innocent persons.” However, in conducting business activities, this organization realizes that although application of the fundamental principles is straightforward in many cases, there are situations where local norms appear to be in conflict with those principles, or application of the principles will cause unintended negative consequences. Situations even exist where the local manager cannot tell whether local customs conform to or conflict with company norms or whether the comparison is even relevant. In these cases, the degree of ethical certainty is much lower.

In international business, a company will struggle to decide between a multidomestic strategy, which tailors its strategy to local conditions, and a globally integrated strategy, which strives to achieve a unified strategy across all units (e.g., Daniels & Radebaugh, 1995). The analysis in Table 14.2 illustrates that one or the other of these strategies alone is inadequate to address global business issues across all levels of ethical certainty.

When a matrix of strategy and ethical certainty is constructed, as seen in Table 14.2, some striking results emerge.

First, ethical relativism is seen to be *amoral* or even *immoral* because it can readily allow companies to violate fundamental ethical principles. Ethical relativism does not accept basic universal principles. It is the “when in Rome” philosophy that values compliance with local norms above

all. Operating in different ways in different cultures constitutes ethical relativism, which permits injustice to occur through violation of those principles that should be practiced everywhere. An example of ethical relativism would be allowing for racial discrimination in plants in South Africa when Apartheid was legally required while professing and practicing equal opportunity employment in the United States and Canada. The problem, of course, is that managers trying to use a relativist approach can condone practices that are morally abhorrent to themselves and unacceptable to their companies.

A second observation is that a globally integrated approach simply will not work when it comes to the local variations of human practice and belief. A globally integrated approach requires that identical principles and practices occur everywhere a company does business, and that is nothing more than ethical imperialism, that is, “my way or the highway.” This is equally dysfunctional because it fails to recognize and respect legitimate differences in practice that do not violate principles.

However, a hybrid approach to strategy and ethics in global business operates in different ways at different levels of ethical certainty. We have eliminated the ethical relativism and ethical imperialism cells of Table 14.2, leaving the four remaining cells to constitute the process of implementing GBC.

GUIDELINES FOR IMPLEMENTING GBC

The final contribution of this chapter is to explain how a corporation implements GBC. A four-step model is derived from the four remaining cells of Table 14.2 and is depicted graphically in Figure 14.1 (Wood et al. 2006).

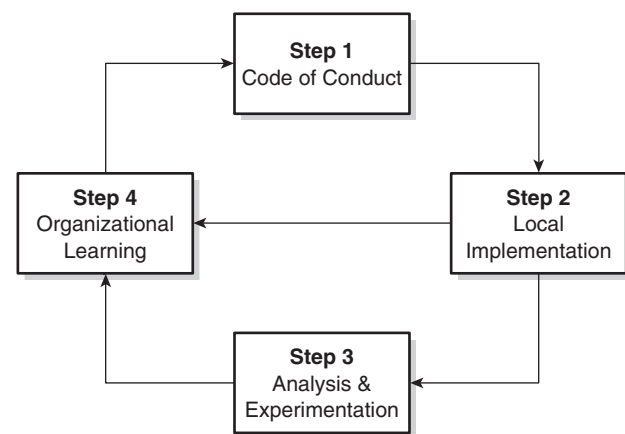


Figure 14.1 The Process of Global Business Citizenship
 SOURCES: Adapted from Logsdon and Wood, 2002b; Wood, Logsdon, Lewellyn, and Davenport, 2006, p. 48.

Step 1. Values in a Code of Conduct

As a first step toward GBC, the company identifies a small set of basic principles in a values statement that governs its conduct wherever it operates. At this step, a globally integrated approach is not only appropriate but also desired; a high degree of ethical certainty governs the choice of principles included, and these are the principles the company stands for and lives by.

The corporate values statement should consider principles that reflect a universally acceptable and reasonably complete set of human values and may be based on core values drawn from the convergence of the world's major philosophical and religious traditions that apply regardless of common practice or local belief (Logsdon & Wood, 2005). The norms identified in the United Nations Universal Declaration of Human Rights or the United Nations Global Compact might also serve as a good source of such principles because of their pervasive moral authority and widespread acceptance. This exercise is especially beneficial for surfacing and clarifying ethical values for companies that have not been articulate about these values in the past, whether or not they have been acting upon such values.

A code of conduct serves both as a statement of basic ethical principles and as an operational guide to behavior. Thus, the code should provide specific guidance for situations that employees will typically encounter. A useful code of conduct will cover normal business functions and operations, as well as any situations that are specific to the firm or its industry. For example, a company that makes extensive use of subcontractors would include guidance on how to monitor workplace practices onsite to prevent violation of a principle against inhumane labor conditions in the manufacture of its products.

Step 2. Local Implementation

Imagine a firm that has a strong value for respecting workers' private lives, but then implements this value by imposing home-country religious holidays in all locations. Christmas and Easter would not mean much in Israel; Yom Kippur and Passover might stir labor unrest in Pakistan or be forbidden in Iran. Eid ul-Adha (Muslim), Gantan-sai (Shinto), Janam Ashtami (Hindu), Maunajiyaras (Jain), and Nichiren Daishonin (Buddhist) are all sacred holidays, but they fall during different times of the year and are observed only by practitioners of that religion.

Managers must implement the global code of ethical conduct in all locations where a company does business. They may have learned how to handle the variety of religious holidays, but this is an easy problem compared to many others. What are managers to do if they don't want to be ethical imperialists and force an unpalatable solution on the local workforce? The GBC process suggests that as long as the fundamental ethical principles are not violated, there is plenty of room and reason for local variations in implementing a company's code of conduct.

In some cases, there will be no conflicts or gaps between the guidelines of the code and local customs, cultural norms, or national standards. In such cases, the company can readily apply its code without modification.

But many situations in international business are of moderate ethical certainty. This means that it's not necessarily clear whether the company's ethical principles and the locale's customs and norms are compatible, but at least they do not seem to be incompatible. One can allow and even plan for variations in implementation of the code of conduct without violation of the big principles. To continue with the holiday example, companies doing business in predominantly Christian regions could perhaps have a few fixed holidays and a few floaters to accommodate workers of various religious traditions. The alternative, ethical imperialism, exists when organizations fail to respect or to value the existence of local cultures, and exhibit naïve or coercive disrespect of legitimate variations in how ethics are lived out in different locations.

Of course, managers must be conscientious in making these judgments. They must be aware of the problems that may arise by arbitrarily applying the company code in cases where customs or local standards are in conflict with it. Or, there may be unintended consequences from implementing the company code that will either create problems for stakeholders or ethical dilemmas for the company that were simply not addressed in the code itself. Engaging in stakeholder dialogue and being open to feedback about code implementation is essential to uncovering such problems. How would managers discover that the operations of their organizations were in conflict with local norms if they did not talk to the locals?

When it comes to the attention of the organization that conflicts exist, managers must take the next step in the GBC process.

Step 3. Problem Analysis and Experimentation

Ethical uncertainty reigns when cultural norms are incomplete, nonexistent, or appear to be in conflict with those principles that are contained in the code of conduct. When this is the case, the organization must make two important steps in its journey toward citizenship.

First, the company must analyze cases in which local customs or norms seem to be at variance with company standards. These cases may include situations where local custom diverges substantially from the company code, and local managers will need to examine whether these differences should be resolved in favor of the code or not. Second, after thoughtful stakeholder engagement and careful analysis, the organization needs to design experiments to test ways to implement the code in conformance with big principles and with respect for local culture.

Analyzing ethical and cultural conflicts is not much different from analyzing production or financial or distribution problems. The task is to identify the problem, take it apart into its various pieces, and search for similarities and

differences that suggest solutions. As with other problems, a manager tries to ask good questions and learn from the experts. Stakeholders can provide important information about local practices, customs, and norms and such input will help the manager analyze conflicts or gaps. It is especially useful in the problem-analysis stage to have an in-depth understanding of the principles underlying the company code.

Experimentation involves searching for creative and practical solutions to values conflicts. One wants to honor the spirit of the code by adapting practice where feasible, and sometimes nothing but trial and error will do. Managers may be up against a conflict they have never experienced or were completely unaware of. Being willing to experiment in good faith, working all the while with affected stakeholders, is key to implementing a global code of conduct in diverse settings.

In cases where the application of the company code will have unintended negative consequences for one or more stakeholders, the manager needs to carefully consider the nature of these consequences and whether they can be mitigated. Because headquarters personnel are not necessarily aware of negative consequences arising in some local cultures, the local manager may need to recommend changes in the company code itself.

For example, in the case of setting a fair wage when first entering a new country, managers quickly determine from local peers, government officials, and workers themselves what the norms and expectations are regarding compensation. Through continuing stakeholder engagement, the managers can discern whether local customs are in conflict with company norms. If they are, it may be that through experimentation managers can find a reasonable way to incorporate local customs and still be consistent with company standards. In other cases, the manager may resolve conflict by supporting the company's code and will need to communicate clearly and respectfully to locals the reasons why this decision has been made. Principles with universal acceptance can be most helpful and persuasive in articulating these reasons.

The issue of discriminatory wages may arise because in many nations, women can legally be paid less than men, and members of minority groups paid less than members of the dominant ethnic group for doing the same or comparable work. Often, the disadvantaged persons may not even be considered for jobs that pay the best wages regardless of their qualifications. In such circumstances, a GBC company is careful to check the history and practices in the new locale, compare the cultural norms to its values and code, and seek ways of meeting its fundamental principles while, whenever possible, respecting local cultural differences.

Step 4. Learning Within and Outside the Organization

This essential last step in the GBC implementation process is the one that turns trial and error into practical sys-

tematic knowledge. No company wants its managers to keep making the same mistakes over and over. Eventually, with good data and a companywide effort to shape and share it, managers can learn to differentiate situations and then apply solutions accordingly.

Local implementation (Step 2) as well as analysis and experimentation (Step 3) will best serve the human enterprise and the organization's purposes when the corporation institutes feedback loops and learns systematically from all its experiences. Systematic learning involves grasping the structural and normative similarities and differences among the various situations the company encounters in its many locations, extracting the essence of these experiences, and providing models or exemplars of what works and what doesn't work in terms of adapting and experimenting with implementation.

After systematizing what it has learned from implementation and experiments, a GBC company will institutionalize those policies, practices, and behaviors that best serve the interests of people and the firm wherever it operates. A database, training modules, and other means of incorporating learning throughout the organization are characteristic of this mature phase of global citizenship behavior. For example, Levi Strauss & Co., Inc., after a decade of experiments in implementing its supplier code of conduct and country terms of engagement, finally began to compile a systematic database that will help all the company's managers identify problems and issues and apply workable, tested solutions. Names, dates, places, and cases all find their way into the database, so no manager need be blindsided by the shenanigans of a known cheater or a subcontractor who likes to skate on the wrong side of labor law.

Ultimately, the GBC process is cyclical. As a company learns to implement its code and understand its local stakeholders, there will be instances where the code turns out to be wrong or unworkable. Cycling back around, then, the good-citizen company learns how to critique its own values and processes and to change its guidelines when it becomes apparent that certain aspects of the code of conduct cannot reasonably be implemented or should not stand as guiding principles.

A final and very important aspect of GBC learning is sharing knowledge with other companies so that the entire business sector can learn. For example, the United Nations Global Compact requires that member companies post status reports on their progress in applying the ten Global Compact principles.

CONCLUSION

GBC is based on the premise that most companies and their managers want to operate responsibly and ethically, and that they are striving to meet multiple pressures as best they can. These pressures are increasingly complex and growing in frequency and potential impact. GBC theory, process, and guidelines are offered as the conceptual and operational

vehicle for bringing the moral conscience into the global economy in the 21st century and for helping managers deal with cross-cultural differences in a responsible way.

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EXCESSIVE WORK AND ITS BUSINESS CONSEQUENCES

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As global competition increases, people have been asked to learn to do more with less. Companies claim that employee layoffs are necessary to save the business and retain jobs for at least some people. Among the many undesirable effects from this type of action is that it leaves all the existing work (if not more) to be done by fewer employees. Everyone is asked to dig in and do whatever possible. Where will it stop? Who decides how much is too much? Some employees struggle to meet work demands while maintaining a strong family life and involvement in outside activities. Others seem to thrive on the challenge. In fact, a few might seem to prefer working long hours. It is this very last group of employees that the company would be wise to think about more carefully. These individuals might be addicted to their work, be workaholics, and this work pattern can have negative consequences for business operations.

The term “workaholic” is often used in a lighthearted way. Some people seem to take pride in identifying themselves as a person consumed by their work. The topic has a serious side, however, and can be described as work addiction. In recent years, technological advances have increased our ability to work anywhere, anytime. The resulting pressure for 24/7 connectivity may push more and more people into putting work ahead of all other activities. Although this may at first seem to benefit the companies for which they work, offsetting issues negatively impact business operations.

Here the words workaholism and work addiction are used synonymously, although with recognition given to the

work of researchers and authors who make various distinctions. Work addiction/workaholism is a manifestation of excessive work that carries with it a number of consequences to both the individual and that person’s network of relationships both personal and professional. Again, both personal and professional relationships are considered, but the emphasis here is on the business consequences and, therefore, professional interaction. Social changes that seem to encourage excessive work, including technological advances, are considered for the ways in which they encourage either the conscious belief that more work is always better or the seemingly unconscious behaviors that allow work to increasingly intrude into other life activities.

RESEARCH PERSPECTIVES ON WORKAHOLISM

In a summary of research on workaholism, Burke (2000) offers a number of points for consideration:

- A variety of definitions and measurements are used to specify workaholism, but some consensus surfaces on the idea of working long hours beyond what is required by external demands, financial need, or a particular work situation.
- Estimates on the prevalence of workaholics range from 5% at the low end up to at least 23% of workers in various samples.
- Researchers agree that the workaholic individual is more likely to suffer both psychological and physical problems

as a result of excess work. Typical problems referenced are anger, depression, or general anxiety, as well as physical health complaints.

Together these points highlight the importance of the issue to managers—the problem does exist, it involves a substantial number of people, and it leads to outcomes with negative impact on the work setting.

Family therapists and counselors have long considered work to be a potentially addictive behavior in the same way that gambling can become addictive. Robinson (1989) offers a Work Addiction Risk Test (WART) from which scores indicate whether a person is NOT work addicted, MILDLY work addicted, or HIGHLY work addicted. Items include “I get impatient when I have to wait for someone else or when something takes too long, such as long, slow-moving lines”; “I overly commit myself by biting off more than I can chew”; “I spend a lot of time mentally planning and thinking about future events while tuning out the here and now”; and 22 other items of that type. As a psychotherapist, Robinson is concerned about the individual who works in excess. He describes physical symptoms ranging from headaches and indigestion to chest pains, ulcers, and allergies. Behavioral symptoms include temper outbursts and mood swings, along with insomnia, difficulty concentrating, hyperactivity, and others.

In summary, the individual who works in excess is at risk for both physical and mental health difficulties. In the past, there has been a tendency to assume that the company employing a work addict is benefiting from all the extra hours on the job and doing so at the expense of the individual. Can it really be more profitable to have an employee with physical ailments and subject to temper outbursts and mood swings? Increasingly, companies require collaborative work in order to be responsive to customer needs and to deal with rapid changes in markets and operating conditions. Addiction introduces dysfunctional patterns into every interpersonal dynamic involving the addict. What little gain there might be in the long hours worked by that individual could be more than offset by a ripple of distorted work team relationships.

A FOCUS ON ADDICTION

The addiction perspective was translated into workplace concerns by Porter (1996) who explained the implications to a business organization by drawing direct parallels between workaholicism and alcoholism as summarized here.

Definitional Similarity

The chosen addictive behavior (work) will be given priority to the neglect of other life interests, just as an alcoholic will neglect family and other responsibilities to drink. This excess is unhealthy for the individual and typically causes turmoil at home with stress that can carry back into

the workplace. Further, workaholics may place demands on other employees around them to adopt similar habits causing a ripple effect of further stress and unproductive interpersonal relationships.

Identity/Self-Esteem

Typically identity issues include problems of self-esteem or distorted self-concept. Whereas alcoholics may drink to feel better about themselves, workaholics are also reaching outward to obtain reinforcement of their worth. On the job, this means that they will seek situations in which they will be seen as the hero, the most (or only) responsible person who will put in the time to get the job done.

Rigid Thinking

The addicted person indulges in rigid thinking. An alcoholic often places unreasonable demands on self and others and turns to a drink as a means of coping with the resulting frustrations. A workaholic is often a perfectionist, setting standards that cannot be met. Further, this individual will likely have a high need for control. In the workplace, this means controlling other people, work processes, and critical information. As frustrations mount, the workaholic creates a situation in which the only solution seems to be personal investment (as the only one, apparently, who cares enough) in more and more individual work. Work addicts are drawn to crises, and astute managers might note on closer inspection that some of these crises could have been avoided. Workaholics not only will allow these situations to develop but may also contribute to the conditions that create them. Resolving the crisis then becomes a mechanism to achieve the self-reinforcement just referenced—being the hero, doing something no one else was willing or able to do.

Progressive Condition

Addiction accelerates over time. An alcoholic will need increasing amounts of alcohol to achieve the desired state of mind. The next morning will bring a hangover and possibly regret or embarrassment over some behavior while under the influence which triggers further need to find a way to again feel okay, and which now takes more drinking than previously. This cycle is paralleled by the workaholic who works to achieve recognition and a temporary feeling of having proven worth in the organization. The recognition—for example praise, a raise or promotion, a bigger office—brings the desired result for a short time but then loses prominence. Now there is need to accomplish something even greater to finally *prove* worth, and the workaholic is driven to do so.

Denial

The refusal to admit any problem exists is a standard difficulty encountered with addictions. The individual

has a tendency to view the problem as one of the accuser rather than of the self. The alcoholic believes a complaining spouse is irrational; a workaholic reacts similarly. The difference is in societal support. At some point, an alcoholic's behavior will cross that line at which the excess is criticized by most people. In contrast, society continues to support the workaholic. The employer often goes even farther by rewarding that person for workaholic behavior. For this reason, workaholism is often called the clean addiction or the socially supported addiction. These conditions make it easier for the work addict to claim that there is no real problem; it's simply a lack of appreciation by family and friends for the importance of the work responsibilities.

Withdrawal

A person breaking an addiction will suffer both physically and psychologically, and this holds true for a person trying to break free of work addiction. Because it does not involve an ingested substance, the physical symptoms are secondary rather than direct physiological adjustments. The person addicted to work becomes accustomed to a certain level of activation—the stress of a heavy workload plus dealing with any personal relationships that may be suffering due to long hours on the job. The work has become a sole (or strongly primary) source of satisfaction, so it is also the sole focus of energy and attention. If suddenly removed from work involvement, that attention, energy, and stress response has no focus. Feelings of anxiety result. There is added stress from fear that things are no longer under control, or perhaps a worse fear—that things will be okay without the workaholic's involvement. If a constant stream of work is required to maintain any sense of worth in the workplace, the potential that the work might be handled adequately without the workaholic would be devastating to his or her self-worth. This is the root of the high need for control on the job. If the opportunity to control the situation and continue the work is taken away, this stress and anxiety manifest into an extreme need to return to the prior state.

Extending the discussion of these points brings into view the dilemma a manager faces in determining who the better worker is. An employee who is always seen onsite—what is called “face time”—appears to be more dedicated to the job. In some cases, this might be a true assessment but, when dealing with workaholism, it is not an accurate evaluation. Another employee who consistently leaves work on time to have evenings and weekends with family might be viewed as less interested in the business. This second person, however, might be continually striving for greater efficiencies to protect that time off and actually be contributing more to organizational effectiveness. The question to ask is “Who is getting the job done most efficiently?”

Particularly in white-collar work environments, it is difficult to determine what to measure as “the job.” There are standard business metrics such as sales, production, and customer feedback. But those are summary level and do not tell the full story. Faced with ambiguity about the value

of individual contributors, too many managers opt to use their general impression of who looks more involved and is always available for more involvement. This can result in rewards going to workaholic employees rather than those who work more efficiently, which can be demoralizing to those employees who see the full situation among their colleagues. Robinson (1989) explains that the work addict is focused on “quantity control but not quality control” (pp. 33, 47) and will lie if necessary to maintain control, even when telling the truth would be easier. Coworkers can see the entire dynamic and become disheartened when their efforts are considered inferior to those of a person who creates workplace difficulties through workaholic behavior.

The dysfunctional pattern is even more damaging if the manager is one who reached that position through workaholic behavior and will, therefore, perpetuate the expectation of similar involvement as a requirement to move up in the organization. Managers will sometimes talk about their own workaholic tendencies and, while they might not wish that on any of their employees, will also acknowledge that workaholic individuals are still the ones most likely to move up in the company. Their willingness to put the job ahead of anything else will be a positive consideration in deciding promotions.

In many cases, a workaholic's performance does appear superior but, using the addiction perspective, this may be only part of the story. Exceptionally high performance often requires long hours, so organizational demands and the individual's desire for excess work are well aligned. However, when faced with a choice between meeting those performance standards more efficiently or maintaining the long hours, the workaholic will choose more work. Just as an alcoholic cannot be definitively identified by the number of drinks consumed, a work addict cannot be identified exclusively by the number of hours worked (Porter, 1996). It is management's task to look more closely at the reasons *why* a particular person is always working and whether this behavior represents a problem of desired excess rather than a conscientious approach to doing necessary work as efficiently as possible.

There will always be times when a particular project requires extraordinary involvement. Also, people starting out in new careers may need to work long hours for as much as several years in order to get established in their industry and profession. A true crisis may require full-time attention for a time. All of these are legitimate reasons to work long hours. The difference that identifies a workaholic is whether any boundaries are ever set. People with workaholic tendencies will be attracted to professions and companies that supply ever-increasing work-hour demands. Some individuals may begin with honest intentions of modifying their work intensity when the opportunity arrives but, in the meantime, have become so accustomed to the level of pressure that it is viewed as an excitement they are later unwilling to give up. A sudden drop from the accustomed level of activation causes discomfort and anxiety—workaholic withdrawal symptoms.

A number of factors have caused people to pay more attention to work excess in recent years. Before examining these factors in more detail and considering future concerns, it might be helpful to understand how people arrived at this point, especially in the United States. Excess work is recognized as a problem in many developed countries around the world. The United States stands out as one of the countries in which people work a high number of hours per week and, in contrast to many other developed nations, take fewer vacations and holidays. This demonstrates a particular work ethic—one with origins predating the establishment of the country and added to since then.

ORIGINS OF THE AMERICAN WORK ETHIC

Generally speaking, a work ethic is the manifestation of personally held values, and every culture has a unique history and set of conditions that influence the meaning given to work in people's lives. The predominant work ethic in the United States grew from the experience of European settlers who came here with hopes of making a better life than was available to them in the home country they left behind.

On arrival, the early settlers found extremely primitive conditions and unimagined hardship. Mere survival was a full-time endeavor. Without an option to simply jump on the next boat to return when things got rough, it's no wonder they so dearly held onto the belief that their trials were part of something very important. At the time, their quest for a better life was often tied to pursuit of religious freedom. This contributed to the settlers' belief that they were destined to set up a community that would serve as a model for Christian societies elsewhere. While most saw the new land as an opportunity to give individuals more freedom, many also viewed it as a new opportunity for broader humankind. The combination provided strong motivation not only to survive, but also to continue pursuit of their vision for society.

As a matter of necessity, the settlers relied on each person to do his or her share of the work. They believed that everyone had to work hard and each, in turn, should enjoy the benefits of their work. Their new community could not tolerate an aristocracy as they had experienced in Europe, where those born to wealth lived off the work of others. Self-sufficiency was imperative, along with a willingness to work cooperatively to create an infrastructure for shared benefit.

Over time, religious customs progressively embraced the value of creating wealth, which allowed people to enjoy greater benefits of their efforts with less guilt. Eventually, work ethic was described less in religious terms and more as a combination of virtues necessary for development. Ben Franklin was a prolific writer and one of great influence during colonial times. Particularly in his writings in *Poor Richard's Almanac*, he popularized the virtues of hard work, pride in work and a job well done, as well as frugality, industry, justice, chastity, humility, and resolution. He did

not mention religion but, rather, stressed these as essential qualities for building the new nation of the United States.

Still, Max Weber (1930) coined the phrase "Protestant Work Ethic" to describe what he witnessed in America. This phrase acknowledged both the underlying religious connection among the people and the implementation of these values displayed in how the people worked. This phrase is still used by many to describe the work ethic in the United States. Specifically, Weber referred to the economic system of capitalism as connected to ascetic Protestantism. The term "ascetic" refers to the willingness to sacrifice and work hard in the present to gain rewards in the future. In the religious sense, it would be giving up comforts now to earn a place in heaven. In the development of the country, it adapted to mean the willingness to invest very hard work to create a system that would be better in the future, particularly for one's children and generations to follow.

Industrialization brought rapid growth of factories in the late 19th century and many changes to the relationship between individuals and their work. People in mass-production jobs began to lose their sense of working at a craft while, at the same time, they gained access to more goods. Work was less tied to personal expression, increasingly measured by the clock, and considered an exchange transaction. Still, people continued to work hard. The American Dream of each generation achieving a better standard of living took hold. Wage earners worked to enjoy their share of the readily available mass-produced goods and to provide even greater opportunities for their children through education and lifestyle improvements.

During all this development, popular stories by Horatio Alger and other authors emphasized the theme of individuals rising from rags to riches. The main character would always begin from a disadvantaged position but, through hard work and perseverance, would reach success. This fostered the belief in America being a "land of opportunity" in which anyone willing to put in the effort deserved to achieve a higher social position and material wealth. An unfortunate side effect was the implication that people who do not improve their standing must be deficient in either ability or ambition to not have capitalized on that opportunity. These stories suggested an *obligation* to improve one's situation regardless of the starting point.

Pursuing constant improvement leads to a cycle of an ever-increasing need to work. A book called *The Overworked American* (Schor, 1993) explained the acceleration in this way: People work hard to have more things, but then they also feel the need to buy more to provide relief from their intense work schedules, and buying more results in needing to work even more. In other words, people with high-pressure work schedules want elaborate vacations and gym memberships as an offset; they feel they "deserve" expensive clothing or a fancy car because they work so hard. Then, they have to work even more to support those indulgences. Twenty to thirty years ago, families began to realize that having both parents in the workforce helped them not only pay the bills but also have more of the extras. Now

the lifestyle standard has moved up to where two-income families are a necessity for having the “average” home, cars, and vacations. Purchases that were previously luxury items—multiple televisions, second and third cars, dining in restaurants rather than cooking at home—have become basics to many households.

The image of the “good provider” reinforced the belief that working more had a positive purpose. Traditionally, the man of the household worked to provide for his wife and children. Society has supported the idea that to work *more* is, therefore, a sign of that breadwinner’s devotion to providing a better life for those dependent on him. Should his wife complain about hours on the job, she would be going up against both the company (likely rewarding the behavior) and social messages that say her criticism is unfair. For a workaholic, the complaining spouse may be a stressor but often not enough to overcome his excessive work habits. It may even fuel the perception of having sole responsibility for safeguarding family security and a corresponding need to work even harder.

As more women entered the workforce, it created new opportunities to justify excess work. For men, the resulting increase in the number of people competing for job and promotions could be used to justify working more. Of course, there is some reality to that assessment of more competition, but it also, conveniently, provided one more excuse for those rationalizing their excess. Women trying to prove themselves by advancing professionally faced the hurdles of overcoming bias and gaining recognition for what they had to offer. A female workaholic could easily turn to her complaining spouse with the explanation that he does not understand what it takes for a woman in business to succeed. Of course, women did not just become workaholics when they entered the corporate environment. Those favoring excess work previously indulged that tendency in social commitments around their children’s schools, community development, entertaining that supported their husband’s careers, and other activities. They functioned as workaholics across multiple involvements. Now, in the same environment as the male work addicts, their behavior is more recognizable as the same phenomenon.

Another social shift pertains to the asceticism just explained in reference to Weber’s (1930) writing. As the opportunity for credit buying became more common, many people chose not to work hard today for what they might have in the future. Rather, they would use credit to purchase goods and services desired today and later work hard to pay those bills. The sequencing of the exchange reversed, but the requirement for hard work to support those purchases continued.

In today’s workplace, there are remnants from each stage of history. Work is still considered to be honorable and people still believe America is a place where individuals can (and should?) advance their own socioeconomic status and pass on a better start to their children. Competition for jobs and promotion has become more intense in many fields as work is outsourced to other countries. Combined with very

real external demands, the belief that work is good easily slides into an assumption that more work is always better.

EXCESS WORK IN TODAY’S BUSINESS ENVIRONMENT

Americans have increased the number of hours they work in the past 20 to 30 years, precisely the time frame one might hope would have offered increased leisure. Americans have been noted to work more hours each year than Japanese, British, or German workers and on average do not use the paid time off they have available to them.

As clarified in Burke’s (2000) summary, neither researchers nor popular press authors agree on the exact definition of workaholism or how to best measure whether and to what extent it exists in the workplace. Some authors disagree with the characterization of workaholism as work addiction, preferring instead to call everyone working long hours a workaholic and distinguishing that some of those individuals are very happy and productive in that situation. There is, however, some consensus that excess work—whether called work addiction or something else—can be a problem, and this extends to a number of developed countries. The above historic highlights for the United States explain a cultural tendency to value hard work. This should not be taken to mean that it is nonexistent or less of a problem in other countries. A quick Internet search reveals that Germans write about *arbeitssucht*, which translates to work mania or work craze. In Japan, widows have successfully sued companies for their spouses’ *karoshi* or death by overwork. Articles and books have appeared in areas as separated as the Czech Republic and Brazil in the last decade. All of this indicates that there is something here of substance and worthy of further investigation.

Excessive work is contrary to the potential for personal benefit in discussions of work/life balance. A company is referred to as “family friendly” when policies and practices include benefits like extended parental leave, flextime, and corporate child-care programs, along with a general culture that values family life and believes in supporting more balanced lives (Andreassi & Thompson, 2004). Having policies is one important step; following through with actual practice is another. Companies that do maintain family-friendly practices and an organizational culture that supports balance between work and family life may do so for different reasons. It may be that the founder or leader of the company supports these values and ensures that consistent messages are carried throughout the employee ranks. A company may also strive to be the preferred place of employment for the best employees. Unfortunately, many companies have policies in place that employees do not utilize, because the organizational culture dictates that face time and overtime are the true values (Andreassi & Thompson, 2004).

On the one hand, there seems to be greater recognition that policies supporting work/life balance are a good idea. On the other hand, actual practices might fall short due

to the engrained habits that have evolved as the prevalent work culture. These opposing forces shift in balance from time to time. Following the destruction of New York's World Trade Center on September 11, 2001, there was a great deal of reflection about what is truly important in life. Some predicted there would be more attention given to life outside the workplace. That emphasis seems to have been short lived. In subsequent years of economic difficulty, global competition, and job losses due to redundancies after mergers, fears about career stability and job retention have overshadowed the magnitude of loss experienced on 9-11.

With so much pressure to work long hours, is it realistic to say that some people would continue to do so even if those pressures were removed? The work addiction view answers that question as "yes" and suggests that the existing work addicts or workaholics in the organization are helping to perpetuate the belief that more work is always better.

HELP FROM ADVANCING TECHNOLOGY

Technology has allowed for new products that have sometimes been called "labor-saving devices." Past generations wondered what women would have left to do in their homes when washing machines, vacuum cleaners, and later, microwave ovens relieved the burden of previously time-consuming household tasks. In factories, there was fear that robotics would displace so many workers as to cause economic disaster. More recently, our ability to do more things and do things faster has accelerated. Document handling has changed with the introduction of fax machines and high-speed copiers. Computers and the Internet have put tremendous amounts of information at everyone's fingertips. Cell phones have allowed easy contact while away from work. Handheld devices now provide features of both phone and computer and are so compact in size that one can slip them into a pocket or wear them clipped to a belt.

All of this allows new freedom for people to move about and does make it easier to leave the workplace and still cover necessary messages, research, and scheduling. However, does the ability to stay in touch 24/7 equate to a requirement that one do so? Technology itself can be addictive. Many people have experienced losing track of time playing a computerized video game. Many have stayed up later at night than intended, engrossed in surfing the Web. As isolated events, these things may not be a problem. When it becomes habitual, and everything else is arranged around the use of the technology, the person might be identified as a "techno-addict" or one subject to "techno-philia" (Kakabadse, Kouzmin, & Kakabadse, 2000).

With some people vulnerable to becoming addicted to work and others vulnerable to technology addiction, the intersection of the two would seem to be a dangerous combination. Work addicts can use the technology to more conveniently indulge; tech addicts can use work as an excuse to justify their need to stay connected at all times and in all places. These are mutually reinforcing patterns. The result-

ing behavior does not always seem so logical to those who do not share in the addiction. Unfortunately, technology has progressed faster than social norms about what is appropriate. Consider these examples:

1. A guest is in the home of a friend to watch the football playoff game on a Sunday afternoon. Every 20 minutes or so he pulls out a handheld device and checks his e-mail. It's Sunday! How many people are likely to be sending him messages that are so critical they cannot wait until Monday morning or at least until later that evening when he's no longer at a social gathering? A few people may have critical jobs that require this type of monitoring, but not many. Why is this behavior not considered out of place or an insult to his friend as host of the gathering?
2. A man drives up to the front of a church on Sunday morning, letting his wife and children go inside while he parks the car. When he enters the church, he stays in a back pew rather than joining them farther up. At the end of the service, they find he has been back there working on his laptop computer. How much benefit came from that time on the computer to balance against the turmoil between him and his wife after it is discovered why he did not sit with the family?
3. A woman supervisor at a bank always wears a wireless ear-piece to maintain connection to her cell phone, even during meetings and lunches with friends. She keeps the phone on silent mode and typically waits to check later to see who has called, but she simply is not comfortable removing the device from her ear. Why is it so uncomfortable to feel physically separated from that piece of technology?
4. A woman is asked by her husband to "just this once" not take her handheld device along on vacation. She convinces him that it will bring her comfort to have it in along in case of an emergency, but she will not use it otherwise. Then, she gets up very early every morning and sneaks it into the hotel bathroom with her to check e-mail while he is still sleeping. What are the chances she received something in that e-mail that really justified lying to her spouse and sneaking around to use the technology that she had promised to set aside?

When 30% of the people in a restaurant are using some type of electronic device, they probably are not all addicted to either technology or the work they may be using it for. Are the others just being rude? Opinions on that might differ. Society has not yet defined the etiquette for appropriate use in public places. When some of those people continue to talk on the phone or check their e-mail while driving their car after they leave the restaurant, there is a deeper question of safety for their passengers, other drivers, and the public at large. In both situations, are people giving due consideration to their own true priorities? Once norms evolve on use of technology, it will become easier to spot those who are compelled toward excess. However, dealing with the problem of excess requires that someone identify that difference with

thought as to why it should be addressed and how that might be done. This is equally true whether the excess is a drive to use technology or to work constantly, and it is especially true regarding the combination of the two.

WHO IS RESPONSIBLE; WHAT SHOULD BE DONE?

Addictive behaviors can be learned at a young age and tracked from one generation to the next because childhood survival behavior often evolves into adult dependencies (Robinson, 1989). When this is the case, a person's workaholic tendencies exist before entering the workplace; the current job is simply today's time and place for the behavior that would occur whenever and wherever that person might be working. Is it the employer's responsibility to change that? There is no doubt that individuals are fundamentally responsible for their own behavior. The employer's responsibility might seem more clear-cut if the job requires this type of excessive behavior and, therefore, seems to pressure people toward work addiction over time. Then we might instinctively turn to the employers as having some responsibility for correcting a situation that they have created. Is there a practical difference between the two possibilities?

When focusing on business consequences, the origin of the problem becomes less important. The previous discussion has emphasized that workaholics are not a company's best asset. By surface appearances, work addiction might be mistaken for dedication, perseverance, and a willingness to always go the extra mile to accomplish goals and make sure standards are upheld. However, the dedication is directed toward making sure that there is always more work than can be completed; apparent perseverance is simply indulging the addiction while garnering societal support; accomplishment of goals and high standards may be real but might also have been accomplished more efficiently and with less turmoil for other involved employees. The company is, of course, concerned with outcomes, but this is no longer enough. The competitive environment today requires that those outcomes be achieved as efficiently as possible. Time at work is not the same as productivity, but even productivity is not enough when there is a possibility that the same level of output could be achieved more effectively than with current processes.

A manager functions as agent for the company in dealing directly with both the targeted outcomes and related employee issues. The easy road is to assume that the employees who are constantly at work are the most valuable. A more difficult task is to monitor both the end result and the process used to arrive there. It is easy to credit an employee with being available and in contact any time of day or night; more difficult to evaluate how many of those odd-hour contacts truly carry any urgency, or how many urgent situations could have been avoided. Management training should include information to assist in making this transi-

tion. Better understanding of work addiction will help, but concrete suggestions are also needed.

Consolidating from several prior authors, the Burke (2000) article covers a number of possible actions for changing the culture of the organizations *away from* work excess and encouraging individual behaviors to support that change. Main points follow, with some interpretative comments added:

- *Identify and track the costs of imbalance* to provide motivation for change and continually remind everyone why it is important to continue pursuing that change. Stress levels and unproductive conflict might be a start; employees would be a good source of input on situations and measures to monitor.
- *Create policies that support balance so that people have relief from their work involvements*, whether that be time with family, community activities, or other leisure pursuits. These policies should be grounded by leadership support, including the expectation that people actually use the policies.
- *Contain meetings within the regular workday times*. Setting key meetings outside that time forces people to arrive early or stay late. Keeping them within the standard workday is a clear communication that employees are expected to have other commitments beyond that time and the company will not routinely interfere with those commitments.
- *Require employees to take their vacation days and do not allow them to work on holidays*. Any options for carry-over or pay in lieu of vacation time should be carefully controlled, used only in situations where it will benefit the employee in a short-term situation but not repeatedly applied.
- *Encourage people to go home rather than work late*. Encouraging this may be as simple as making it visible that the boss goes home and tells people to do the same. A special circumstance might require extra effort for a limited time. Indications that someone is consistently staying on the job would be reason for discussion about work distribution and new goal setting. If a complete workgroup or department is staying late, individuals may feel that they have to match that behavior. Groups can gradually slide into this longer workday norm unless they receive ongoing, consistent communication that it is not viewed favorably.
- *Talk to employees about how their time on the job might be more productive*—whether they are having general time-management problems, having difficulty prioritizing activities, or struggling to secure uninterrupted time for better concentration.

These suggestions are based on the stated assumptions that employees will be more effective in their work, overall, when their lives include time and attention to sources of satisfaction outside the workplace. People who are working long hours due to external pressure are likely to gravitate

toward changes such as these as soon as they are convinced it is a message truly supported by their employer. Those who resist such changes—who continue to spend excessive time on the job—are the people working that way from an inner drive to maintain work activity with or without external demands. Those people will strongly resist efforts to have more work/life balance. For example, they will not use their vacation time, will not stay home even when they are ill, and they will ignore or even sabotage policies that would allow other benefits like flextime or telecommuting. In other words, they seem determined to stay at work as much as possible.

Further verification of a problem might be found by noticing supervisory staff who are unable to effectively delegate work, because work addicts prefer to do twice as much themselves rather than alleviate the workload. They might assign a task, repeatedly change requirements, or set impossibly high expectations and, finally, take the work back and finish it through added independent work. This inhibits the development of other employees, in addition to causing anxiety and low morale. Workaholics who are not in a position to delegate are, similarly, poor at the interdependency required in collaborative work. Teamwork interferes with their control of information, people, and processes. This works against the shift of many organizations today toward more collaboration and team-based work structures.

As policies and practices change to favor work-life balance, differences among employees would become more obvious. A manager then can investigate whether the person who seems compelled to work in any circumstances is a center for less-productive routines and troublesome interpersonal relations with other workers. This deeper investigation of the issue rarely happens. Most managers are very busy, do not understand the problem, and have never been educated on a better way to assess employees' work patterns. There is little recognition that those highly productive employees might be making their numbers while also causing unnecessary turmoil in the workplace. Confronting them is difficult for the manager, particularly if the same behavior has been the basis of past rewards and promotions. One manager alone will have a tough time combating workaholism if the larger organizational culture supports it.

CONCLUSION

The overall scenario might seem unpromising. The generation to generation replication of addictive behavior means it is not a problem likely to go away on its own. Technology is potentially compounding the number of workers involved in excessive work. Increasing demands of the workplace—both for more hours involved in work and for use of technology to stay connected—may be encouraging the formation of workaholic behavior patterns. One might think it futile to tackle the concern of excessive work and honestly question whether there are not more pressing is-

ues deserving of managers' attention.

Offsetting this pessimistic view are more promising signs. The February 2007 issue of *Harvard Business Review* contains its list of Breakthrough Ideas for the upcoming year. Number seven on the list, and in the category of "people management," is the item Living with Continuous Partial Attention, a condition in which one is "constantly scanning for opportunities and staying on top of contacts, events, and activities in an effort to miss nothing" (Stone, 2007, p. 28). In contrast to multitasking, which often combines tasks that require only limited attention, continuous partial attention is more taxing, and focus seems to deteriorate in the face of this constant barrage of incoming information. The concluding breakthrough idea in this article was that companies will be able to differentiate themselves both with customers and employees by offering "discriminating choices and quality of life" (Stone, 2007, p. 29).

This is one example of the growing attention to need for change and, again, the type of change that when done successfully will increase the visibility of work addiction and resulting difficulties in the workplace. Stone reports this attention to offering relief from continuous partial attention as being driven by backlash from employees and customers. If this is true, the push toward excessive work may have reached its tipping point and trends will, indeed, shift. Companies astute enough to recognize the validity of this shift and take action toward moderation will be able to gain competitive advantage by avoiding, or at least diminishing, the negative business consequences of excessive work.

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FACTORS INFLUENCING WOMEN MANAGERS' SUCCESS

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Although the number of women in management has doubled over the last 30 years, women are still underrepresented in managerial positions worldwide. For example, despite holding 37% of all management positions in the United States,¹ women make up only 5% of CEOs in Fortune 500 companies. A comparison with recent data from Europe reveals a similar situation, with women holding about 30% of managerial positions and accounting for only 3% of CEOs in the top 50 publicly quoted companies.² The situation worldwide can be characterized as follows: the higher the managerial level, the lower the proportion of women. Why is that the case?

This chapter starts with an overview of the factors that have been identified to have an important impact on women managers' success. We thereby define success as advancing up the corporate ladder. Our overview of the relevant factors distinguishes between individual level, organizational, and societal factors. In the next section of this chapter, we focus on the business case for granting women equal opportunities for advancing to managerial positions and rising through the levels of organizational hierarchies. The discussion of the benefits associated with granting equal opportunities to men and women make it clear why organizations should make serious efforts to address the issue, especially since there is a shortage of skilled labor in the

United States and in many other industrialized countries. In addition, it becomes evident why students of management should know and care about the topic and thus why it is included in this *Handbook of 21st Century Management*. Finally, we make suggestions as to what organizations can do to redress women's underrepresentation in management. We end with our summary and conclusions, a list of additional entries in this *Handbook*, and a selection of notable further readings for those readers wishing to gain more knowledge on this topic.

FACTORS THAT HAVE BEEN FOUND TO INFLUENCE WOMEN MANAGERS' SUCCESS

The vast majority of empirical studies on woman managers has focused on the question why women do not advance in management as much as men. However, more recent studies in fields such as management, sociology, psychology, and women's studies, among others, have also examined which factors are beneficial to women managers' success. This chapter gives an overview of both the barriers and success factors for women managers' success. Thereby we have divided the relevant factors into three major categories: individual level, organizational, and societal factors.

Individual-Level Factors

The individual level factors, also referred to as person-centered factors in the literature, focus on the characteristics of female managers. They include general individual-level factors, such as female managers' human capital, perception of themselves and their abilities, personality traits, and the inclination to systematically plan a career. In addition, individual-level factors also comprise aspects of a woman manager that are essential for her interaction with others such as her linguistic style, assertion of self-interests, and leadership style. At first, we present the general individual-level factors, before discussing how female managers' interaction with others may impact their career advancement.

Human Capital

A popular explanation for the gender gap in workplace leadership is that women's human capital investment is lower than men's. This argument is based on Becker's³ logic that investing in human capital (i.e., education, training, and work experience) leads to knowledge, skills, and abilities, which then increase an employee's productivity. This, in turn, is rewarded by an increase in pay and job status, resulting in upward mobility. However, a closer examination of empirical data shows that the simple explanation that women invest less in their human capital and thus do not advance to higher managerial levels to the same degree as men does not hold true. In the United States and many other industrialized countries, women now attain university degrees at higher rates than men do. With regard to obtaining bachelor's degrees, this trend has been evident in the United States since 1981–1982.

Furthermore, the assumption that employed women are less identified with their jobs or less committed to employment than men is also disproved by empirical findings: Studies on the identification with various life roles show that employed men and women rank their role as worker similarly and both consider it subordinate to their roles as partners and parents. Comparing employed men and women in the same types of jobs shows that women are as committed to paid work as men and even report putting in more effort on their jobs than do men. With regard to human capital investments, there is an important difference between men and women, however: In spite of the fact that women invest as much in their human capital as men (e.g., by achieving higher levels of education and participating in training and development), men benefit more from doing so, as evidenced by numerous studies.

The difference in gains between comparable men and women include both opportunities for managerial advancement and pay. With regard to work experience, studies show that men generally need to work fewer years for the same company to advance to higher levels of management than women do. In addition, men gain more advantages such as increased training and development opportunities. In con-

trast, neither women's tenure with the same organization nor their international experience brings the same benefits as is true for men. Along the same lines, studies have revealed that although female managers do not quit their jobs more often than male managers do, when they do quit and then obtain a new position, they are penalized more than their male counterparts are in terms of lost wages.

Self-Confidence

A number of empirical studies have reported that women tend to underestimate their actual performance in situations in which they are evaluated. Overall, male managers have been found to not only rate their overall performance higher than comparable female managers, but also to evaluate their skills and their intelligence higher than their female counterparts. This tendency to underestimate their own capability and performance may have a negative impact on women managers' advancement in the long run. In concordance with this assumption, interview studies have revealed that a high percentage of female managers (up to 50%) regarded lack of self-confidence as a barrier to their career advancement. Now one is inclined to ask what causes female managers to have lower levels of self-confidence than their male counterparts. Empirical evidence from the field of social psychology shows that men and women differ with regard to their dominant attribution style. In particular, men tend to attribute successes internally—they believe that their successes are caused by their abilities. In contrast, women are more inclined to attribute their successes to factors outside their person such as properties of the situation or mere luck. Overall, the typical attribution style of men facilitates their self-confidence since successes are explained by their abilities, and each success is therefore likely to increase self-confidence. However, this is not true for women, since successes are often attributed to causes the woman does not have control over.

Personality

Although their number is limited, there are some studies that examine gender differences in the links between personality and advancement in management. Overall, they found that the personality traits that are positively related with advancement are the same for men and women—although men may be more likely to possess these traits. In particular, masculinity (i.e., self-rated dominance, forcefulness, independence, and aggressiveness) is positively related to women's managerial levels, as is the case for men. Recent studies show that both male and female managers prefer work cultures that emphasize traditional male values such as competition, effort, and work pressure over feminine work cultures. However, these studies leave unclear whether mainly women with a masculine orientation choose to pursue managerial careers (self-selection), if only women with this kind of orientation advance to managerial

ranks, or if individual women's orientations change toward a more masculine orientation as a function of their job as a manager.

Career Planning

Since women have historically been and in many cases still are faced with the decision between pursuing a managerial career and having a family, they have been found to plan their careers less carefully than their male counterparts, especially in the early years. Often, women do not focus as much on building up a career portfolio and a curriculum vitae that will prepare them for advancement to higher positions several years later. However, it seems that with higher proportions of women enrolled in MBA programs and other types of business education, this factor may be becoming less important.

Beyond these general individual-level factors, there also are differences between men and women with regard to their typical interactive style that are important for women managers' success.

Linguistic Style

For more than 30 years, Deborah Tannen (1995) has been researching the influence of linguistic style on conversations and human relations. More recently, she has focused on the impact it has on others' judgments about the speaker's confidence, competence, and authority. Linguistic style refers to a person's characteristic speaking pattern. It includes such features as directness versus indirectness, pacing and pausing and the choice of words, figures of speech, jokes, questions, and so on. In short, linguistic style is a set of culturally learned signals by which people communicate and on the basis of which they are evaluated by others.

According to Tannen's (1995) analyses, the linguistic style that is typical of women often causes them to get less credit for their ideas and achievements. For example, women often speak in the passive voice or impersonal form. For example, they say, "it was accomplished" and tend to use the pronoun "we" instead of "I" when talking about their achievements, whereas the opposite is true for men. In addition, women are more likely to downplay their certainty, whereas men are more likely to minimize their doubts. One manifestation of this tendency is the fact that women tend to ask more questions (signaling interest, not lack of knowledge) and use words like "maybe" or "perhaps" more often than men. Unfortunately, men often interpret this as insecurity. Another potential source of misunderstanding between men and women is the fact that apologizing, mitigating criticism with praise, and exchanging compliments are rituals that are common among women but often interpreted as literal by men. For example, men may misinterpret feedback as completely positive, although it contained several areas for improvement, but these were stated after the positive aspects had been stressed. In con-

trast, ritual opposition is common among men but often taken literally by women. Men are likely to present their own ideas in the most certain way possible and challenge their colleagues' ideas by trying to find weaknesses in order to help their colleagues explore and test their ideas. Women, however, may be more inclined to interpret the objections as an indication that the idea was poor or even take the opposition as a personal attack. Consequently, they may hedge when stating their ideas in order to fend off potential criticism—which makes their arguments appear weak and invites opposition. The problem with the differences in men's and women's linguistic styles is not that one style is generally more effective than the other, but that people in powerful positions—who are still predominantly male—are likely to reward linguistic styles similar to their own, and misinterpret those that are different.

Asserting Self-Interests

Several studies show that one factor that adds to women's relatively slower career advancement is their tendency not to assert their own interests. Whereas men are likely to ask for the things they find desirable—such as a pay increase—and to act in instrumental ways, women tend to hold the view that their performance will be recognized and adequately rewarded. Furthermore, women do not like to negotiate. A nice summary and illustration of empirical findings of this tendency is given in *Women Don't Ask* by Babcock and Laschever (2003). For example, when asked to pick metaphors for the process of negotiating, men picked "winning a ballgame" and a "wrestling match," while women picked "going to the dentist." Furthermore, it has been shown that women are more pessimistic about how much is available when they do negotiate, so they typically ask for and get less than men. For example, men expect to earn 13% more than women during their first year of full-time work and 32% more at their career peaks.

Recent experiments have also provided preliminary evidence that women's greater reticence as compared to men's about attempting to negotiate for resources, such as higher compensation, can be explained by the differential treatment of male and female negotiators. More specifically, these studies showed that male evaluators are less willing to work with women who attempt to initiate compensation negotiations, whereas there is no effect for attempting to negotiate pay for men. Simply advising women to negotiate for pay and promotions therefore does not seem like a solution.

Leadership Style

Another explanation that is often given for the underrepresentation of women in managerial positions is that men are more natural and thus more effective leaders. As we will see, there is no empirical evidence for this assumption.

Most information on differences between male and female leadership styles is based on research conducted prior

to 1990, which typically distinguished between a *task-oriented* and an *interpersonally oriented* style. While the task-oriented style is defined as focusing on accomplishing assigned tasks by organizing task-relevant activities, the interpersonally oriented style is conceptualized as a concern with maintaining interpersonal relationships by tending to others' morale and welfare. Another distinction employed by a smaller number of studies is between leaders who (a) behave democratically and allow subordinates to participate in decision making (*democratic leadership*) or (b) behave autocratically and discourage subordinates from participating in decisions (*autocratic leadership*). Overall, laboratory experiments and assessment studies using people who did not occupy leadership positions (e.g., students and employees) found that styles were somewhat gender stereotypic: women tended to manifest relatively more interpersonally oriented and democratic styles than men, whereas men were found to demonstrate a more task-oriented and autocratic style. However, sex differences were more limited in organizational studies assessing actual managers' styles: The only demonstrated difference between female and male managers was that women adopted a somewhat more democratic or participative style and a less autocratic or directive style than men did. However, male and female managers did not differ in their tendencies to use interpersonally oriented and task-oriented styles. Do people react differently to men and women using the same leadership style? Lab experiments provide preliminary evidence that people react more negatively to women than men who adopt an autocratic and directive leadership style.

Recently, a new distinction of leadership styles has been developed to identify the types of leaders who are attuned to the conditions faced by contemporary organizations. Their emphasis is on leadership that is future oriented rather than present oriented and that strengthens organizations by inspiring followers, encouraging them to think creatively, and giving them opportunities for development. This type of leadership has become known as *transformational leadership*. Numerous studies have provided evidence that transformational leadership is effective with regard to followers' attitudes and performance. In many analyses, this type of leadership has been contrasted with *laissez faire leadership*, a style marked by the leader's failure to take on responsibility. Summing up the results of all studies on transformational leadership that had been conducted in organizations up to the year 2000, Eagly and her colleagues⁴ determined the following: Female leaders showed more transformational leadership and less laissez faire leadership than male leaders. In addition, female leaders engaged in more contingent reward behaviors (i.e., exchanging rewards for followers' satisfactory performance) that have been proven effective. In summary, empirical evidence shows that women managers have a leadership style that has been determined by numerous studies to be very effective. However, future studies are needed to examine if the same leadership style is more or less effective depending on the

leader's gender, the follower's gender, and/or the properties of the situation.

Organizational Factors

In addition to the individual-level factors just discussed, a number of organizational factors, also referred to as situation-centered factors in the literature, influence the likelihood of women being hired and promoted into managerial positions. Among these are personnel selection systems, the lack of female role models and mentors, the different access to networks, and several characteristics of the organization, including the number of female employees.

Personnel Selection

Empirical analyses show that the hiring of managers is commonly based on informal networks, not systematic personnel selection procedures. In addition, many organizations treat cases on an ad hoc basis—especially for top management positions—and do not keep records of the promotional process. However, studies show that formalized, open selection methods increase the number of women in managerial positions. In addition, preliminary evidence suggests that including more elements in the selection process that systematically assess performance, such as work sample tests, helps in diminishing bias against women.

Furthermore, empirical evidence suggests that the degree to which a firm's human resources practices are formalized correlates with the number of women in managerial positions. Overall, it can be summarized that personnel selection and evaluation methods that follow formalized procedures allowing people to be judged on their (past) performance and not relying solely on others' impressions and subjective evaluations of potential decrease biases against women. In concordance with this body of evidence, preliminary empirical results suggest that women are more likely to be promoted into managerial positions than to be hired into these jobs. Again, this may be because promotions depend on past performance and are based not only on an evaluation of management potential.

Role Models

The substantially lower number of female managers and the extremely low percentage of women in top management positions automatically lead to a lack of female role models. Many young women aspiring to be managers point out that there are only a few—if any—role models they can look up to and model their behaviors after in their organization. In addition, large-scale surveys of female MBA students reveal that up to 90% believe that more female managers as role models would encourage more women to seek MBAs. Currently, women make up approximately one third of MBA students in the United States. Furthermore, since the majority of professors are also still predominantly male,

women often lack the opportunity to experience women in leadership positions at all.

Mentors

Mentors are often regarded as crucial for individuals' career success. They can serve both instrumental (i.e., directly career-related) as well as psychosocial functions for the person they are mentoring. Among the instrumental functions are giving career support, coaching, providing challenging tasks, and helping the person become visible. The psychosocial functions include emotional support, guidance, and being a role model. Preliminary findings point out that people (both men and women) who have a mentor have higher career expectations than people who do not. Now, one may wonder if it is harder for women to find mentors than it is for men. Empirical evidence thus far suggests that women find mentors as often as men do and their mentoring relationships are of the same duration. However, as may have been expected, it is harder for women to find male mentors. This seems to be important with regard to women managers' success since the most powerful positions are still predominantly occupied by men; in addition, studies from the United States provide evidence that having a (White) male mentor correlates positively with annual income. With regard to career success, it is thus crucial not to just have *a* mentor, but the *right* (i.e., powerful) one.

Recently, many organizations have introduced formal mentoring programs, in which junior managers are paired with senior managers in the same or in other organizations. Although this may be a good approach and helps in facilitating junior managers' career aspirations, formal mentoring relations have been found to be less beneficial for the person who is being mentored both in regard to career support and psychosocial functions. In addition, overall satisfaction with the mentor, duration of the mentoring relationship, and the mentor's motivation and function as a role-model have been found to be lower for formal than for informal mentoring relationships. Thus, we can conclude that formal mentoring relationships may be helpful but cannot parallel the effectiveness of informal mentoring. The question remains as to how women can find male mentors outside of formal programs. Establishing the right networks may be a useful step.

Networks

Several authors assume that the fact that women are still underrepresented in managerial positions can largely be attributed to the strong influence of established male-dominated networks. In support of this assumption, empirical studies have provided evidence that first, male and female managers belong to different networks within the same organization. Second, although both groups receive comparable amounts of support from their networks, female managers receive their support from networks that are

marked by lower levels of status and power. Consequently, the support male managers receive from their networks is likely to have a greater positive impact on their career development than is the case for female managers. Thus, becoming part of powerful (i.e., mostly male-dominated) networks would likely be of great benefit to women managers. Obviously, this is easier said than done, in part because in many countries prestigious clubs and societies do not accept women as members.

Organizational Culture

According to some studies, the majority of female managers regard the values, politics, and culture of the organization they work for as a barrier to their career development. For example, many female managers tend to think that if they are good at their jobs, others should notice and promote them. Thus, they should not have to make themselves visible, promote themselves or network with senior managers to build sponsorship. However, these behaviors are necessary for advancement in many organizations. In addition, many female managers report that they are in favor of an open culture that allows for teamwork and collaboration, instead of power games—which many perceive as dominating the culture of their organizations. Since more often than not female managers perceive a lack of opportunities to change their organizational culture, which can sometimes be characterized as a “macho culture,” they feel frustrated and discouraged from pursuing a managerial career. Overall, an organizational culture that facilitates cooperation, and an open exchange of information and merit should not only be beneficial for female employees, but also for the organization as a whole.

Organizational Characteristics

In addition to organizational culture, several objective characteristics of an organization can have a substantial impact on women managers' success. Examinations of the effects of a number of these characteristics on women managers' advancement yield the following conclusions. First, there is no evidence that the likelihood of women advancing in management is higher in larger, as opposed to smaller, organizations, even though it would seem that women would be more likely to be promoted in larger organizations since there are more managerial positions. In fact, the opposite seems to be true. Second, with regard to promotion ladders, it can be concluded that when women work in jobs with many possible promotion steps rather than few, they seem to advance more.

Two organizational factors that have been found to contribute to women's underrepresentation in management, however, are starting opportunities and the distribution of certain important positions. Empirical evidence suggests that in general, men are given more favorable starting processes such as being appointed at higher levels and on faster

tracks than women, which results in their advancing more in management than women. A fourth, related fact is that high skill-level occupations and line positions (that is, in operations, not support areas) are more often held by men than women and have been found to offer more opportunities to advance in management and higher pay than other occupation and job types.

Number of Women in the Organization

Many of the negative experiences women—especially at higher levels—are faced with at their workplace have been attributed to the underrepresentation and thus the “token status” women have in many organizations. Studies report that women feel personally discriminated against to a higher degree if there are a low number of women in their organization and few women are newly recruited. Furthermore, the low representation of women at the workplace has been found to lead to a feeling of personal deprivation and stress, which may in some cases lead to women’s withdrawal intentions. However, several empirical studies point to the fact that a high number of women in management makes men in the organization feel threatened, which has an adverse impact on women’s advancement in management. Studies thus far suggest that there is a curvilinear relation between the number of women managers in an organization and the likelihood for other women to be hired or promoted to managerial positions. According to preliminary evidence, the “ideal” percentage of female managers in this sense ranges around 35%. Definite conclusions would be premature at this stage, though, since the empirical data are still scarce. Nevertheless, the phenomenon that the entry of women into male-dominated organizations often leads to the men feeling threatened has been documented many times.

Societal Factors

The third category of factors influencing women managers’ success is societal factors, also referred to as systems-centered factors in the literature. In some ways, these factors are the most influential ones, since they not only impact women’s success directly, but also influence the previously stated individual and organizational factors, and thus have additional indirect effects. The most prominent societal factor is gender-role stereotypes, which are discussed here at greater length, because they have been found to be prevalent worldwide and influence women managers’ success directly and by means of organizational systems and practices. Other factors presented in this section (that are different from but still influenced by gender-role stereotypes) include management education and combining a managerial career with having a family.

Gender-Role Stereotypes

Many empirical studies note that gender-role stereotypes are prevalent and have a substantial influence on

how women managers are perceived. Scholars distinguish between prescriptive and descriptive gender-role stereotypes. Descriptive gender-role stereotypes are defined as the beliefs that there are differences between how men and women actually behave and what they are really like. For example, men are generally seen as achievement oriented or agentic (i.e., independent, decisive, forceful, rational), whereas women are perceived as socially oriented or communal (i.e., kind, caring, emotional). In contrast, prescriptive gender-role stereotypes are norms about how women and men should behave or not behave. Worldwide, women are expected to be concerned with the welfare of other people (nurturing, affectionate), whereas men are expected to have agentic or masculine characteristics concerned with being assertive, controlling, and confident. According to Heilman,⁵ descriptive gender-role stereotypes promote gender bias because there is a discrepancy between the stereotype of what women are like overall and the characteristics managerial jobs require. The discrepancy results in expectations that women will not be able to perform in managerial jobs or to a lesser degree than men. These expectations lead to negative evaluations of women’s competence, either through devaluing women’s work accomplishments or through attributing responsibility for women’s successful performance to causes other than their abilities. Studies have shown that the bias in the perception of women’s competence prevails even when explicit evidence for their leadership success is available. Generally, the gender bias described is increased when there is ambiguity about the nature of performance outcomes or the source of performance success.

Prescriptive gender stereotypes also have a negative impact on women managers’ success: when women prove to be competent and have succeeded at “male” work, they violate the normative prescriptions for women. This is followed by negative sanctions, in particular dislike of these women, which again decreases their chance of advancing in management.

A potential way of overcoming this barrier—at least when giving presentations—has been described by Carli, LaFleur, and Loeber (1995): While a woman who projects her competence in a purely stereotypically masculine manner runs a higher risk of social resistance than a similarly self-presented man, women can effectively convey their competence if they soften their stereotypically masculine competence with feminine niceness (e.g., smiling, nodding, and leaning toward listeners).

Numerous studies have provided evidence that the stereotype of a manager is very similar to the male stereotype (“think manager think male”) since both are seen as independent, ambitious, competent, and competitive. Schein’s (2001) research shows that this concordance of the male and the managerial stereotype was evident in the descriptions given by business students (male and female) in all of the five countries she examined. The only group that did not show this “think manager think male” phenomenon was American female students: they saw successful middle managers and women in general as similar.

A relatively new approach toward studying gender-role stereotypes and their effects on individual's behavior uses the paradigm of "stereotype threat." In this type of study, the female stereotype is made especially accessible to students by having them view female-stereotypic (vs. neutral) television commercials. Then in a subsequent procedure portrayed as an unrelated experiment, it is assessed how likely women versus men are to express their preference for a leadership role versus a nonleadership role. As would be expected, women but not men expressed less preference for a leadership role when stereotype threat had been induced (i.e., women had been portrayed in stereotypical roles in the commercials). These findings not only point to the powerful effects gender-role stereotypes can have on individuals' behaviors, but also stress that the way women and men are portrayed in the media and in materials used for educational purposes should be under scrutiny.

Management Education

As the studies on stereotype threat have shown, the way men and women are portrayed can impact the roles and responsibilities women choose. In the light of these results, it seems necessary to examine this aspect of management education. Several surveys of MBA students and female managers show that management education is still largely dominated by a male approach. For example, female students often remark that the examples used in class and the speakers invited hardly include women. In addition, female professors are still a minority. In general, it should be examined to what degree management education programs meet the needs of all students, including women and minorities.

Combining a Managerial Career With Having a Family

Several empirical studies have shown that women take on the majority of household responsibilities and demands of children, no matter how many hours they work outside the home. Many authors have thus argued that the multiple roles of work and home women occupy lead to time limitations and interrole conflict, which has a negative impact on women's advancement in management. The predominant patterns of marriage and children among men and women seem to confirm such propositions: Statistical evidence shows that most male managers are married fathers, whereas female managers are more likely to be single or, if married, childless. However, summaries of empirical findings have shown that most evidence does not support the view that women's multiple family roles cause them to advance less in management than men. Reviews of the literature show that marriage and/or children were either not related to, or were relatively unimportant for, advancement in management for men or women compared to other factors. Furthermore, empirical evidence reveals that when male or female managers were single, they reached lower

managerial levels and were paid less than when they were married, controlling for many other factors including age. In fact, some studies suggest that childless single men and women and single fathers advanced less than other family types. The results may be because employers allocate pay and promotions based on an individual's perceived conformity. In line with this assumption, studies have reported that in the private for-profit sector, traditional fathers (i.e., those married with a spouse not employed outside the home) may advance in management more than other men, whereas mothers with an employed spouse advanced in management as much as other women.

Other evidence also does not support women's multiple roles as the reason they do not advance in management. A review of the literature shows that the number, or care, of children is not related empirically either to women managers' advancement in management or to men's (at least in the United States). However, interview studies consistently reveal that women report lack of adequate child care as a career barrier and problems with child-caring responsibilities as damaging their career. This issue should therefore be addressed by organizations that seek to increase their number of female managers. There are many business reasons why organizations should do so, as discussed in the next section.

THE BUSINESS CASE

Proponents of equal-opportunities approaches usually argue that giving men and women (as well as other minorities) the same chances to advance in management is dictated by the laws of social justice. While that is true, we argue that there is also a clear business case for providing equal chances for men and women in organizations. The business case focuses on the benefits that employers accrue through making the most of the skills and potential of women employees. The basic argument is that the loss or lack of recognition of these skills and potential is very costly. Consequently, the business case is fundamentally linked to the principles of strategic human resource management, meaning that the full utilization of human resources is regarded as essential for a company's long-term success. Furthermore, it is crucial that the initiatives designed to create equal opportunities are in concordance with the overall strategic direction of the company. Since achieving equal opportunities is essential to attaining organizational goals, equal-opportunities initiatives have to pervade every aspect of business policy.

The business case for equal opportunities is based on arguments that can be summarized under the phrase "Benefits of Equality"; they include

- larger and more diverse talent pool;
- best use of human resources in the organization;
- workforce more representative of customers;
- higher creative potential; and
- improved corporate image.

Larger and More Diverse Talent Pool

If organizations are truly open to hiring and promoting women (as well as other minorities) into managerial positions, the talent pool potential candidates can be recruited/promoted from is significantly increased. Following the argument that talent and ability are equally spread throughout all groups, including men and women as well as all ethnic groups, selecting from this larger pool should increase the likelihood of finding a truly excellent candidate for the job. Furthermore, if hiring and promotion practices are based on qualifications and merit alone (and not on networks), this should automatically increase employee diversity which, in turn, increases a firm's adaptability to new demands. In the face of rapidly changing new technologies and globalization, flexibility is essential for long-term business success. In addition, the United States and many other industrialized countries are facing a shortage of skilled labor or are predicted to do so in the near future. This development makes it even more important to be able to recruit and retain the best talent—regardless of gender.

Best Use of Human Resources in the Organization

Organizational systems and practices that ensure bias-free promotion and compensation decisions also allow for optimal use of the human resources that are available in any particular organization. When men and women are given the same rewards for the same performance, they are likely to be equally motivated. Frustration or turnover that results from unequal treatment is avoided, to the benefit of the organization. Women who may have left the organization because they did not perceive opportunities for advancement are now likely to stay and work hard toward the organization's goals. This is an important aspect considering how high the costs of low productivity and rehiring are, especially for highly skilled employees.

Workforce More Representative of Customers

Another reason why organizations should be open to recruiting and promoting women into managerial positions that has been brought up frequently is the following: According to recent statistics, approximately 70% of all decisions to buy something are made by women. It is therefore important to understand how women think and feel if an organization wants to meet customer needs. The logical step therefore is to increase the number of women in the organization, especially in higher positions that are involved in strategic decisions.

Higher Creative Potential

Another benefit from increasing the number of women employees, as well as diversity in the organization in general, comes from the improvement in decision-making processes and innovation. As research shows, homoge-

neous groups are more likely to fall into the “groupthink” trap (i.e., all individuals think in the same way, wherefore risks are not carefully analyzed and often underestimated). In addition, the potential for creativity and innovation is increased when groups are diverse; admittedly the costs of communication and coordination are likely to increase as well. To ensure optimal group functioning and performance, it is advisable to compose groups of people who are diverse with regard to gender, talent, and background but who are committed to the same standards and follow the same procedures. Since sustained innovation is a major competitive advantage, not to say a necessity for survival in today's rapidly changing world, the gain in innovative potential stemming from more gender diversity in management should be highly valued by organizations.

Improved Corporate Image

Organizations that provide men and women with equal opportunities for advancement are likely to receive indirect benefits, in addition to the direct ones. Among these is an improved corporate image. In today's highly competitive markets where the quality of many products is often difficult for customers to evaluate, a good corporate image is a key competitive advantage. It may not only help in attracting customers, but also potential employees and investors. Since customers and investors are increasingly scrutinizing organizational practices with regard to fair standards and procedures, and many organizations have emphasized their corporate social responsibility, this factor is of substantial and still increasing importance.

SUGGESTIONS FOR INTERVENTIONS

Organizations can use numerous interventions to increase the number of women in managerial positions. They can

- use structured, open selection methods;
- place women in or advise them to take high skill-level occupations and line jobs;
- provide starting opportunities for women (e.g., through initial placement on faster tracks);
- give opportunities for challenging assignments and management of others early in career;
- provide objectively structured processes to identify employees for training and development;
- provide structured and, as much as possible, objective selection and promotion processes to reduce nonmeritorious influences on advancement in management;
- provide women with career support (sponsor, coach, challenging work, visibility, male mentors, and career encouragement from senior staff) not merely emotional support; and
- use predefined, ideally objective measures of performance

In addition to these straightforward approaches, organizations in some countries, especially in Scandinavia, have

used more controversial approaches toward increasing the number of female managers. For example, numerous Swedish companies offer compulsory training programs for male managers in order to increase their awareness of the underrepresentation of women in management, the costs this situation inflicts on the organization, and possible ways to redress the underrepresentation. Another, even more controversial intervention is the introduction of quotas. In Norway, for example, publicly listed companies are required to have boards with a female quota of 40% by the end of 2007. Although quotas are often met with hostility from business (and often women, too), they are by far the most effective means of increasing the number of women managers.

DIRECTIONS FOR FUTURE RESEARCH

As discussed in this chapter, previous research has identified many factors that influence a woman manager's career success. Although these studies have provided important evidence, a number of areas should be addressed in future investigations.

First, although many factors have been identified to impact women managers' career success, it is not clear what their relative importance is and how these factors are related. Ideally, this issue could be addressed by means of large-scale longitudinal studies that examine the impact of a number of individual-level factors (e.g., human capital, personality) as well as organizational variables (e.g., organizational culture, promotion systems) on the rate at which men and women advance in management. Of course, these investigations would require a large number of individuals and organizations to participate for an extended time, but the knowledge gained would warrant the investment.

Second, research on women managers' career advancement to date has focused mainly on the barriers, whereas only a few studies have focused on the facilitators. It seems that the inclusion of studies that provide evidence on how successful female managers made their way to the top would be extremely useful. Ideally, future studies following this approach would allow for conclusions on the impact of different contextual factors (e.g., branch of business or national culture).

Third, the question of how the number of female managers—especially at higher levels of the organization—can be increased should receive more attention in the scientific literature. While there are some examples of organizations that have established successful programs to increase gender diversity in management, a thorough evaluation of these programs is mostly lacking. However, investigating empirically which approaches prove to be useful seems crucial if organizations want to take the issue of increasing their number of female managers seriously.

Fourth, in the long run scientists interested in the topic should concentrate efforts on developing a model of women's career success that integrates the barriers and facilitators and specifies the conditions under which certain factors

are particularly relevant. The model should also serve as a framework for the design of interventions to increase the number of female managers.

SUMMARY AND CONCLUSION

Despite the large increase in the number of women in management over the last 30 years, women are still underrepresented in managerial positions, especially at higher levels. As empirical studies on this phenomenon show, there are still numerous barriers to women manager's success.

The individual-level barriers include women not receiving the same rewards for investments in their human capital as men, women often being perceived as less self-confident than men based on their linguistic style, and women being less likely to assert their self-interests. However, contrary to the frequent assumptions that women are less natural and thus more ineffective leaders, studies have revealed that female managers in fact show very effective leadership styles.

In addition to the individual-level factors, a number of organizational factors influence women manager's success. Among the most important of these are the methods employed for hiring and promoting managers. In short, when formalized systems and clear definitions of performance standards are used, bias against women is reduced. Part of the reason is the fact that it is harder for women to belong to powerful (i.e., mostly male-dominated) networks and have powerful mentors. Thus, if hiring and promotion decisions are largely based on informal networks, women's opportunities are significantly diminished. In addition, an organizational culture that is dominated by power games instead of open communication and teamwork makes women managers' advancement less likely. Since an organizational culture that emphasizes merit as well as collaboration instead of politicking should facilitate business results, a change of organizational cultures in this direction should be of benefit to all stakeholders, not only women.

The factors subsumed under the third category—the societal factors—are most influential for women managers' advancement, since they affect both individual-level and organizational factors. The most important one of these factors is gender-role stereotypes. As shown in many studies, the typical role stereotype of men is largely in concordance with the stereotype of a successful manager, whereas there is a large discrepancy between the expectations of managers and the female stereotype. This "think manager think male" phenomenon has been found to have a substantial effect on the way men and women are perceived and is evident in numerous countries, both among men and women. However, a first study has provided evidence that these stereotypes may start to change—at least this was true among American female business students.

Why should organizations care about all this? There is a clear business case why organizations should aim at increasing their number of women managers. A larger talent

pool, better use of the human resources in the organization, better understanding of customer needs, greater creative potential, and increase in the firm's corporate image should be compelling reasons for increasing the number of female managers. Interventions such as implementing structured objective selection and promotion processes and measuring performance objectively should be of benefit to all high-performing individuals in an organization and thus should increase organizational effectiveness. Providing equal opportunities for advancement to men and women is imperative, not only because this is fair, but also because it is based on calculating business logic.

NOTES

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FUTURE DIRECTIONS IN LABOR RELATIONS

A 2025 Perspective

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Since the enactment of the Railway Labor Act in 1926 and the National Labor Relations Act in 1935, American workers in the private sector have enjoyed the right to organize into unions of their own choosing to negotiate with their employer and establish their wages, hours, and conditions of work. The term “labor relations” broadly refers to the parties involved in this relationship and to the various interactions, procedures, processes, and actions that occur between them. The employees, represented by the union, and the employer, represented by management, may have different priorities regarding the allocation and utilization of human resources in the production of goods and services and about the terms and conditions relating to employee compensation and welfare. While there are broad overall goals that are important to both parties (e.g., survival of the firm), there will likely be differences over the immediate functional and procedural issues in the workplace. The labor-relations process focuses on how the parties deal with these differences and reach a mutually satisfactory accommodation that allows for a workable ongoing relationship and continued production. The purpose of this chapter is to outline the basic nature of labor relations in the United States and offer a long-term perspective on its development. Indeed, the goal is to look 20 years into the future to prognosticate the characteristics and state of labor relations in the year 2025. While these projections of the future cannot be comprehensive, they will draw upon important general trends and specific factors and explore their influence on the key institutions and processes that will constitute labor relations at the quarter-century mark.

Initially, a brief overview is presented of the basic nature and unique aspects that historically characterize labor relations in the United States. Then, there is a review of the state of American labor relations as they have evolved in the early 21st century. Next, some important trends that will likely influence the directions of union-management relations in the foreseeable future are presented. The focus then turns to the projected characteristics of key institutions and processes that will constitute labor relations in the year 2025. Finally, some concluding comments on labor relations in 2025 will be offered.

IMPORTANT CHARACTERISTICS OF AMERICAN LABOR RELATIONS

The relationship between the union representing workers and the employer typically has been characterized as *adversarial* in nature. Indeed, it is a relationship in which each party exercises its *power* to get the best deal it can from the adversary. Management, which is responsible for the overall performance of the firm, has traditionally emphasized the importance of maintaining control of operations, keeping costs at a minimum, and having the immediate capability of making the changes it deems necessary. Individual workers, on the other hand, are in a dependent position with relatively little voice or ability to influence decisions affecting their job security, how they are utilized, or how much they are paid. Given this situation, workers join to form unions to gain power and a collective voice in these important

decisions—which tends to restrict the control of management. Thus, while the parties are interdependent and may have some shared broad goals for the overall success of the organization, they tend to have different positions regarding how workers are managed and rewarded. When the union representing the employees meets with management to define the rules of the relationship, it is a process where the parties are engaged in hard bargaining to reach a mutually agreeable arrangement to carry out the productive activity of the firm. If an agreement cannot be reached, then either of the parties (or both) can use its power to take coercive action (e.g., a union strike, an employer lockout) to pressure the adversary to give concessions and force movement toward an agreement.

It is also relevant to note that American labor relations are characterized by the term “voluntarism.” This means that labor representatives and management, within the legal framework established by government for workers to organize into unions and to bargain with employers, are given maximum freedom to work out their relationship based on their respective power positions. They voluntarily enter into a contractual arrangement specifying the rules that will govern the employment relationship that they have forged through their negotiations. Typically, the government plays a very limited role in the relationship. As a third party, government functions more as a facilitator or referee when there are problems. It may intervene more directly when there have been violations of the law in the labor-relations process or when there is a labor-management conflict that has a significant negative impact on the broader society.

Unions

Labor unions, as representatives of the employer’s workers, are key institutional players in the labor-relations process. They are a unique type of organization formed out of the collective discontent of workers who find themselves in a dependency position with little voice or influence over important aspects of their work life. Traditionally, unions are *protest organizations*, sometimes referred to as “managers of discontent” that focus and direct worker concerns regarding their work situation. In such a role, unions act as devices to regulate employer discretion wherever it affects the workers’ tangible interests. Interestingly, unions have also regulated competition among the workers, since they will negotiate specific and uniform rules in the work context and require workers to conform to them.

American unions, as contrasted to many European labor organizations, are nonideological and are not broad-based working-class movements. They are not formed as part of a political movement nor are they monolithic entities trying to represent all workers. They have been characterized as being pragmatic, opportunistic, and relatively narrow in focus. Indeed, Hoxie, an important early scholar of unionism, used the term “business unionism” to describe this type of American unionism. The emphasis is on the use

of collective bargaining by unions to achieve tangible and pragmatic goals to benefit their specific memberships in a particular craft or industry. In conjunction with this pragmatism, unions have traditionally been oriented to the current situation with little done in terms of long-range planning. They have typically focused on the here-and-now issues that affect their membership—and they generally have been reactive to management decision making.

While unions are not working-class movements or political parties themselves, they are internally highly political organizations. They are basically democratic institutions wherein the leaders are accountable to the membership and are elected by it. The union leaders must satisfy the membership if they are to stay in office. This, as might be expected, can lead to a good deal of internal political activity by rival factions seeking support of the membership. To stay in office and maintain power, leaders may be forced to take positions within the union and with employers that they do not entirely support, since they cannot afford to alienate important power blocks in the union. Union officers must show that they are supportive of membership “needs” and are willing challenge management to get them. This can lead to difficult negotiations since the range and depth of the membership desires presented by the union leadership in negotiations may not be entirely feasible or viable for the firm.

LABOR RELATIONS: TRANSITION INTO THE 21ST CENTURY

By the mid-20th century, collective bargaining was an accepted institution in the functioning of the American economy. American industry was dominant in the world and, for the most part, it was domestically based. Unions were well established, unified into a single labor federation (AFL-CIO), and represented over one third of the nonagricultural workforce. They were powerful players in the economy—particularly in the core manufacturing, construction, communications, and transportation sectors. The public sector was only lightly organized. The largest and most powerful unions were the traditional industrial and craft unions such as the Steelworkers (USW), Auto Workers (UAW), the Teamsters (IBT), the Carpenters and Joiners (UBC), and the Electrical Workers (IBEW). These and other unions employed their significant power in negotiations to protect employment, raise wages, and develop new and extensive benefit programs (pensions, health care, etc.) for members. While employers had never accepted unions as equal partners, they recognized the legal right of unions to represent their employees and respected the power that unions had to affect the firm’s operations. Employers were willing to deal with unions through collective bargaining. Hard bargaining was characteristic of the period. Strike activity was relatively high—with over 2 million workers involved in 363 strikes, each of which involved 1,000 or more workers in 1955.

Fifty years later, the labor-relations scene in the United States was dramatically different. Significant shifts in employment from manufacturing to services, a meaningful effort on the part of many employers to implement better human resources practices, the increased willingness of employers to take an aggressive (even militant) stance in avoiding unions, the growth in government legislation that dealt with issues of interest to workers (e.g., health and safety, equal employment opportunity, pensions, etc.), and the unions' own lack of investment in organizing, among other things, led to an entirely new labor-relations situation. In 2006, union density had dramatically declined. Unions represented only 12% of the nonagricultural workforce—and only 7.4% of the private-sector employment. Unions had, however, grown in the smaller public sector and now represented 36.2% of workers at all levels of government. The largest unions were now the Service Employees International Union (SEIU), the Food and Commercial Workers (UFCW), the State, County and Municipal workers (AFSCME), the Teamsters Union (IBT), and the National Education Association (NEA).

The increased competitive context faced by employers, their desire for more flexibility, and the need to control costs—coupled with the general decline in union power—created a situation in which many labor organizations faced strong opposition to their efforts to organize workers. Unions were winning only somewhat over half of the representation elections held by the National Labor Relations Board (NLRB). Even if the union won, the election to represent the firm's employees, however, in only about half of these cases was it able to negotiate a contract with the employer within 2 years of being recognized. Where unions did have established representation and were able to get contracts, they often faced significant concessionary demands from employers to reduce costs and increase productivity so the firm could remain competitive. As a result, these negotiated contracts often reduced union members' job security, eliminated or loosened restrictive work rules, held down wage increases (or even gave concessions), shifted more of the cost of benefits to the employee and, in some cases, reduced the scope of worker benefits. Unions were weakened and in many cases were clearly on the defensive. Reduced union power and the lack of effectiveness in using direct coercive tactics is reflected in the fact that in 2005, strike activity was very low—with a total of only 100,000 workers participating in 22 work stoppages that involved 1,000 or more workers.

The labor movement itself, with significant internal disagreements on how to deal with the declining membership and how to reestablish its now diminished power, was fractured when, in 2005, several key unions withdrew from the AFL-CIO to form an alternative labor federation called the Change-to-Win Coalition. Major unions including the SEIU, the United Food and Commercial Workers (UFCW), the Teamsters (IBT), UNITE-HERE (hotel, restaurant, textile workers) along with the United Farm Workers (UFW)

left the AFL-CIO. They were joined by the Carpenters Union, which had disaffiliated earlier, and the Laborers Union (LIUNA), which did not disaffiliate from the AFL-CIO, to form Change-to-Win. The new coalition's goals were to focus more on organizing workers rather than on national politics. It emphasized consolidation, more centralized direction, and cooperation among unions in organizing on a regional or industrywide basis. The new union coalition stated that it wanted to stimulate change in the labor movement—not create rivalry and division in the movement. While the split occurred at the national level, the unions associated with the two federations continued to participate together on issues of mutual interest in state and local AFL-CIO labor bodies through an innovative device called "solidarity charters." Indeed, even the two federations at the national level have continued to cooperate on broad issues of mutual interest—such as electing supportive politicians in the 2006 elections.

TRENDS AFFECTING LABOR RELATIONS OF THE FUTURE

In order to look to the future of labor relations and discern the likely scenario 20 years hence, it is appropriate to first identify some of the important current changes and trends that are likely to extend beyond the present and have an impact on the relevant institutions and processes over the foreseeable future. Indeed, what factors are likely to influence the nature and size of unions? What trends will affect employer needs and expectations? What will likely influence the evolving power relationships, structures, and processes used by the parties in the labor-management relationship? Some changes that have the potential for influencing the evolving nature and processes of labor relations include globalization, demographic changes, industry and employment structural changes, and income and benefit inequality.

Globalization

Markets and production operations have increasingly become international in nature and will continue to move in that direction for the foreseeable future. Where at one time the focus was domestic, it is now global. The economic growth of Asia, the development of free trade agreements between the United States and other countries and regions, and the overall growth in transnational companies and commerce have impacted and will continue to impact American labor relations. This has led to the decline in U.S. manufacturing employment as work has been shifted to low-cost developing countries. Illustrative is the case of the auto industry—a former bastion of union power and strength. In 2006, Ford indicated that it was considering building a new plant in Mexico even while it was shutting down factories and laying off union workers in the United States. This would mean billions of dollars of investment

in Mexico with tens of thousands of jobs created to produce a new subcompact car. DaimlerChrysler AG's Chrysler Group negotiated an agreement with Chinese automaker Chery Automobile Co. to build a subcompact car to be sold in the United States and other world markets. The first cars will arrive in the United States in 2008. Chrysler said that it could not build such a car in the United States due to high labor and other costs. Jim Owens, CEO and Chairman of Caterpillar, in a 2007 *Wall Street Journal* interview, indicated that the company was "going to have a lot more employment growth outside than inside the U.S."

There is a significant growth in "off-shoring" (sending work to other lower cost countries) not only in manufacturing but also in many service jobs (e.g., information technology, call centers, research activity, back-office jobs, etc.). While estimates of future American jobs losses to offshoring vary, all are in the millions. Indeed, economist Alan S. Blinder, Princeton professor and former Federal Reserve Board vice chairman, has warned that as many as 30 to 40 million American jobs could be at risk of being offshored in the next 10 to 20 years. Many of the countries that are receiving U.S. investment and jobs have labor movements that represent employees—but they often represent workers who have different needs than American workers; some have strong political or government ties and have a different organizational structure. Often there is little history of serious widespread cooperation with U.S. unions. Companies, through efforts to compete in the growing global marketplace, will continue to develop international operations—and the power of unions in the United States to impact these companies and negotiate with authority will be challenged.

Demographic Changes

The American workforce continues to become more diverse. The classic image of the average worker being a White male in a blue-collar job is no longer relevant. The labor force is increasingly diverse in terms of gender, age, race, cultural background, and ethnic characteristics. Indeed, the U.S. Bureau of Labor Statistics has noted that from 2000 to 2005, women filled more than half of the U.S. jobs. Racial and ethnic minorities, especially Hispanics, are the fastest growing sector of the population. Immigrants, including a sizeable influx annually of illegal immigrants from Latin American countries, constitute a significant addition to the workforce. By 2025, it is expected that persons of Hispanic origin will constitute about 18% of the population, Asians about 6%, African Americans about 13% and Whites about 62% (down from 71% in 2000). Indeed, by 2025 it appears that non-Whites and Hispanics will constitute over 40% of the workforce—and that non-Whites, Hispanics, and women will account for about two thirds of the American workforce. In addition, by 2020, the proportion of the workforce in the prime working age group of 25

to 54 years will shrink significantly and the percentage of the labor force age 55 and over will grow to about 23% (up from 13% in 2000).

This vast growth in workforce diversity has significant implications for labor relations since unions cannot rely on classic approaches to organizing, representing, and bargaining for such workers. Beyond their basic needs, each of these diverse groups will have different concerns that will have to be addressed by both unions and employers. Each one will likely have a particular opinion about unions and the prospect of being represented by them. Some polls suggest that women may be more favorably disposed toward unions than men, and younger workers may be more likely to support unions than older persons. The question arises as to whether unions will be able to connect with this new workforce to (a) bring them into the labor movement and (b) to effectively represent their diverse interests in the employment relationship.

Industry and Employment Structure

The structure of industry and employment in the United States will continue its shift toward the provision of services and away from the production of goods and agriculture. For some time the employment in manufacturing, a core base of traditional unionism, has been declining. While in 1994 manufacturing employment constituted 13.2% of employment, by 2014 it is projected to have only 8.2% of U.S. employment. The number of factories in the United States in 2005 declined 10% from its 1997 peak and the downward trend shows no sign of reversing. The new factories that are now being built utilize cutting-edge technology to be competitive—and this means fewer traditional blue-collar manufacturing jobs. Job growth is projected to be in sectors such as professional and business services, educational services, health care and social assistance, and leisure and hospitality.

In order to increase flexibility and reduce costs, American firms have increasingly turned to the use of part-time, contingent and alternative employment workers (i.e., temporary workers, contractors, consultants, and freelancers) to complement a reduced core of regular employees. Indeed, data from the U.S. Department of Labor indicates that about a quarter of the workforce is made up of such workers, who constitute a growing sector of the workforce. These workers are frequently employed in service industries, in office and administrative support positions, and as operators, fabricators, and laborers in transportation, manufacturing, and construction. Many of these workers, such as those with temporary help agencies, are paid less than standard employees are and rarely have benefits such as health-care coverage, pension contributions, and vacation days. While unions have expressed concern about the status and use of contingency workers, there is a very low rate of unionization among them.

Income and Benefits

There is a growing inequality of income and earnings in the United States and a continuing trend for employers to reduce their responsibilities for pension and health-care benefits for workers. In 2007, Federal Reserve Chairman Ben Bernanke noted that there was a significant and growing differential in wages and household income in America. He pointed out that those in the 90th earnings percentile had received increases of 34% in inflation-adjusted wages during the 1979–2006 period while those at the 50th percentile had increases of 11.5% and those at the 10th percentile had 4% increases. He noted that for household income, those in the top 20% had 50% of the after-tax income and government benefits in 2006 (compared to 42% in 1979) while those in the bottom 20% had only 5% (compared to 7% in 1979). This growing hiatus between the haves and have-nots was attributed to a number of factors including the strong demand for highly educated workers in a knowledge-oriented economy, the decline of unions, the surge in corporate chief executive salaries, and the impact of globalization. This trend obviously creates a significant underclass of low-earning workers who have little power individually to change their situation. Many of these persons are poorly educated and/or are immigrant workers who are not union members.

In addition to the growing inequality in earnings and income, there is a growing trend for employers to freeze or terminate pension plans and to reduce health-care coverage or shift more of the burden of paying for health care to employees. Employers have expressed concern about the expense and funding volatility of the classically defined benefit pension plans and, increasingly, have replaced them with defined contribution plans, which depend on employee saving and investment. According to the Pension Benefit Guarantee Corporation, there were more than 114,000 defined benefit plans in the mid 1980s, but by 2005, they numbered only 30,336.

As just noted, more companies are shifting an increasing part of the cost of health-care benefits to their employees and are trying to shed the burden of funding open-ended retiree health benefits. The cost of employer-provided health-care benefits has grown substantially over the years. The Employee Benefit Research Institute notes that in 1950, health-care costs constituted only 8.8% of total benefit costs. This rose to 23.4% by 1975—and in 2005, health-care costs represented 43.7% of all benefits costs. Some companies, especially smaller firms, have dropped health-care coverage altogether. In other cases, employers are demanding that employees assume more responsibility in paying insurance premiums and/or they are encouraging employee movement to high-deductible consumer-driven health plans. Historically, many of these classic benefits (e.g., defined benefit pensions, employer paid health-care insurance) were negotiated by unions for their members.

Now unions, in a weakened state with declining membership, are facing the negotiating challenges of meeting worker retirement and health security needs in the face of significant employer pressure to reduce costs.

LABOR RELATIONS IN 2025: AN OVERVIEW

Given the changing employment and economic environment, the participants, processes, and structures of labor relations will be rather different in 2025. There will be fewer unions and they will be broadly focused and united into a single labor federation with more emphasis on interunion cooperation in organizing and bargaining. While unions will retain core elements of their roles as protest organizations and business unions, they will evolve to incorporate more characteristics of broader social movements. Unions will work in coalitions with community groups and will enjoy meaningful membership growth in the next 20 years. They will direct organizing efforts toward workers whose jobs are not likely to be off-shored and toward those persons representative of the growing segments of the workforce. Their organizing efforts will focus on broader skill, industry, and geographical bases and will continue to emphasize pragmatic solutions to worker problems—but will also place increasing importance on broader concerns of social justice. There will be more global cooperation among unions in various countries to deal with international companies. American employers will continue to actively resist union organizing; but due to more effective union tactics and legislative changes, unions will be more successful in their efforts.

Bargaining structure will be broader with a focus on centralized negotiations for contracts covering employees in an industry or geographical area. The bargaining process will be characterized more as “interest-based bargaining” and less on win-lose hard bargaining. More union-management relationships will emphasize cooperation and joint efforts. The content of bargaining will deal more with issues that are important for organizational viability and success such as flexibility and mutual sharing. Unions will take on more responsibility in managing retiree health-care plans and other benefits.

Strike action by unions will remain at historic low levels. Industrial conflict will certainly be part of the labor-relations process, but will manifest itself in more subtle and indirect ways—such as corporate campaigns, unpredictable job actions, and third-party pressures.

The Labor Movement in 2025

In response to their long-term decline and the recognition of both the challenges and opportunities in the emergent contextual trends, unions, out of necessity, will reinvent themselves in terms of their focal objectives and

organizational characteristics. This will be reflected in their approaches to organizing workers and dealing with employers. Indeed, this redefinition and reorientation, along with the enactment of legislation facilitating organizing, will result in the growth in the number and proportion of the U.S. workforce who are union members. By 2025, the unions will grow to represent approximately 11% of the private-sector workforce and about 38% of the public-sector workforce.

Union Structure and Focus

There will be significant consolidation in the labor movement over the next 20 years. There will be fewer unions as the smaller national unions and local independent unions merge or are absorbed by larger unions. This consolidation will be necessary for the smaller unions to get the resources and expertise they need to deal with employers in a more competitive context with low-cost rivals overseas and employer demand for concessions. The absorbed unions will become operating units or locals of the larger more powerful unions. The number of unions will decline from 59 (affiliated with AFL-CIO and/or the Change-to-Win Coalition), to about 40. There will be about 14 to 15 very large unions that cover basic industrial sectors (e.g., UAW, USW, SEIU) or that broadly represent all types of workers (e.g., IBT) and about 25 smaller specialized unions for workers, in particular for crafts and occupations (e.g., Firefighters, Federation of Professional Athletes). The AFL-CIO and the Change-to-Win Coalition, while initially rivals, increasingly will emphasize cooperation at all levels on economic and political issues. The two rivals will eventually join forces and form a partnership that will emphasize joint efforts and cooperative programs.

In an effort to respond to the changing environment and enhance their influence and attractiveness, unions will assume more of a role as “social movements” than has been the tradition. They will form ongoing active coalitions with community, religious, and social rights groups with an agenda that goes beyond the workplace and deals with social issues. These coalitions will provide legitimacy and a positive image of the union with a range of groups the union wishes to organize or which it needs for support in its representation and negotiation activities. For example, by partnering with a particular group (e.g., faith-based or immigrant group), the union can obtain useful advice on matters relevant to that constituency and can mobilize support beyond the union membership for relevant political (e.g., elections), social (e.g., community welfare), and economic action (e.g., organizing, strikes, boycotts). Recent illustrations of such coalitions and social actions would include the 2006 AFL-CIO partnering with Interfaith Worker Justice to fight workplace discrimination and civil rights violations for low-income workers and its partnership with the National Day Laborer Organizing Network—which is a national network of worker centers dealing with problems of illegal immigrants. The Change-to-Win Coalition has developed a

partnership with organizations such as the Rainbow/PUSH Coalition—with support by activists like the Rev. Jesse Jackson. In addition to coalition formation and building, unions will independently take actions to show concern for social justice—and enhance their public image and reinforce their legitimacy. Current examples of these types of actions that are likely to be more characteristic of unions in the future would be the national walk sponsored by the AFL-CIO to raise awareness about economic inequality in the Gulf Coast area and the effort by Change-to-Win to set up a worker-training initiative involving mobile training centers for people who had been displaced by Gulf Coast hurricanes. Unions will place emphasis on forming organizations of working people who are not union members but who share union members concern about workplace and social issues. Illustrative is the effort by the AFL-CIO in launching Working America, a membership organization of persons who are not union members but who are concerned about social justice and want a voice to speak out and work to change the direction of the country. Such activities and efforts will be increasingly employed by the labor movement in the next 20 years.

UNION ORGANIZING

Union organizing in 2025 will have two key target dimensions: organizing by type of work and by worker characteristics. Regarding type of work, there will be less emphasis on organizing manufacturing workers and significant effort in organizing three types of service workers. First, there will be a continuing effort to organize semiskilled or low-skilled service workers in jobs that cannot be easily sent offshore (e.g., janitors, childcare workers, bus drivers, security guards, etc.). Second, unions will increasingly work to organize white-collar and professional personnel whose jobs are being made more routine, who suffer from diminished control, and who are perceived as being devalued by the employer. This will include physicians, engineers, psychologists, congressional researchers, and other professional occupations in large bureaucratic organizations. In 2005, the labor movement estimated that around half of all union members were white-collar workers—and this will grow to a sizeable majority by 2025. Finally, with the growth in “free-agent” contractual labor, unions will organize workers on a broad basis by skill rather than focus on a specific company. Unions will form agencies that will provide a response to the growth in temporary agencies. Union agencies will provide placement services and benefits such as health and pension plans.

Organizing efforts will be focused on the growing segments of the workforce—women, minorities, and immigrants. Women are particularly concerned about inequality in pay, rising health-care costs, and work/life balance issues. Immigrants and minority workers, often employed in the growing sectors such as retail, hospitality, and health care, are concerned about gaining legal residency, obtaining

fair wages and, in the case of many immigrants, learning English. The majority of union organizers will be a mixture of women and ethnic and cultural minorities. Spanish will be commonly spoken by organizers.

Organizing Tactics and Strategies

In the years leading to 2025, unions will increasingly employ more involving and community-based approaches in organizing workers. For example, they will draw upon the coalitions in which they are involved to assist them in seeking justice and organizing workers. By working with religious and civil rights groups, they not only gain legitimacy with groups such as immigrants, racial minorities, and women but also have an active community base to pressure local leaders and officials to support the organizing effort. This may come in statements by community leaders supporting the union and/or condemning actions by the employer. In addition, it will manifest itself through such things as resolutions by local government supporting the union efforts or calling for company neutrality and voluntary union recognition.

By 2025, federal legislation will have been enacted that requires union recognition by an employer if a majority of the employees in the prospective bargaining unit indicate their desire to have the union represent them. The requirement of a secret-ballot election conducted by the NLRB will no longer be necessary to gain union recognition. This will greatly facilitate organizing effectiveness and will be an important factor in union membership growth.

Unions will make wide use of technology in their organizing efforts. While home visits by organizers will still be important, traditional handbilling at the employer site will not. The use of e-mail, the Internet, and other information technology for communicating will be key. This evolving technology has the intimacy of conversation, is more efficient than mass produced handbills, and can reach a widely dispersed set of individuals. Responses to management assertions can be answered quickly, and on-demand responses to personal concerns are possible. Webcasts, Web chats, video podcasting, blogs, and other cybernetic tools will be widely used—especially in recruiting and organizing younger workers.

Unions will attract and solicit members by becoming sources and/or managers of employee benefits such as health care, pensions, and worker training. Companies may contribute to these programs, but the union will be the responsible agency. For example, unions will create 401(k)-type retirement plans that are available to workers and not tied to a particular employer. Unions will focus on organizing on a broader geographical (e.g., all janitors in a city) or industry basis rather than on a firm-by-firm basis. In organizing a particular employer, the union will use a “trigger agreement” whereby the employers remain neutral regarding the organizing activity and the union does not seek to negotiate a contract until it has organized a majority of the market.

RESPONSE TO GLOBALIZATION

American unions have traditionally been domestically focused—with relatively little international presence beyond their activities in Canada. With the globalization of industry and the growth in off-shoring jobs, unions have become keenly aware of the need to deal with companies on an international basis to protect their interests. Unions in other countries also will face their own problems in dealing with multinational companies. While there are meaningful differences among the labor organizations in various countries (e.g., government sponsored vs. independent, centralized vs. decentralized, unique identities, and interests, etc.) and the needs of the workers they represent will vary, pragmatic necessity will persuade them to work together and coordinate efforts to some degree by defining some common issues of concern. For example, unions in the various countries where a global firm is present may coordinate efforts to organize the firm to have some voice in meeting overall worker needs. Or there may be concern about labor standards in a particular country that are exploitive and impact employment in most other countries. Without some coordination and cooperation among the unions in other countries, there may be little hope of successful change.

By 2025, an activist and widely accepted federation of worldwide unions will facilitate the necessary coordination in union actions to deal with transnational companies. It may be the UNI (Union Network International) Global Union, currently a loose federation of more than 900 affiliated unions in 140 countries that was formed in 2000 and created to build an alliance that could represent workers across many countries, or it may be another Global Union Federation. In its most basic activity, this organization will enlist and coordinate the efforts of the various national unions on matters of mutual agreement. It will build on, and go beyond, current efforts to induce multinational companies to sign global framework agreements, which guarantee such things such as adequate health and safety conditions, equal treatment of men and women, the right of workers to join unions, and other core labor standards in all locations. If there are disputes with a transnational firm and it is a credible issue across international boundaries, this global federation will be able to coordinate union pressure tactics in various countries. Much of the effort will focus on impacting the public image and reputation of the target companies—with the objective of affecting the companies’ business success. Strikes supporting workers in other countries will be possible, but will be rare since some countries will not allow strikes and some unions will be unlikely to take such direct action affecting the members in their own country in support of workers elsewhere.

While there certainly will be more coordination and communication among unions on an international basis, cooperation will remain limited when a firm’s decisions create a competitive win-lose situation for the unions—for example, they affect workers negatively in one country while the firm’s employees in another country are beneficiaries

(e.g., a company reducing employment in one country and expanding in another).

BARGAINING PROCESS AND ISSUES

While remaining true to their identity as business unions who seek “more” for their members, unions in 2025 will emphasize cooperation in working with employers. Under strong competitive pressures from global and low-cost non-union competitors, the negotiations process between unions and management will have evolved to a process that might be characterized as a dual emphasis on cooperation and measured adversarialism. It will be in their mutual interest to work cooperatively to see how costs can be reduced and productivity increased—for survival purposes. The cooperative dimension of the relationship will reflect a process called “Interest-based bargaining” that is focused on defining problems and determining how they can be solved to the benefit of both parties rather than taking a hard-line position initially and bargaining from these points on a win-lose basis. However, the increased savings and added value through these cooperative efforts will be the subject of subsequent negotiation in regard to their allocation between corporate profits, business needs, and worker earnings and benefits. Different priorities at this point can lead to harder negotiations and disagreements.

In preparing for negotiations, the focus will be more on defining and agreeing on overall mutual interests and identifying the particular interests and needs of the union and employees (e.g., a secure and properly rewarded workforce) and management (e.g., efficiency and reasonable shareholder return) rather than taking specific positions. There will be joint task forces and committees to collect relevant information related to the mutual interest issues. Neutral professionals and outside experts (legal, medical, economic, actuarial) will be important participants in joint prebargaining meetings to help identify and clarify options and will offer expert counsel to the parties on specialized issues during bargaining. The union and management representatives will work together before the formal negotiations begin to set up ground rules and procedures that they believe will facilitate the negotiation process. The preliminary meetings can help identify the focal issues for discussion and, as is possible, develop jointly defined priorities.

Bargaining Topics and Issues

Union contracts will no longer contain strict work rules limiting use of union employees, but the emphasis will be on negotiating “competitive operating agreements” that create flexibility in the use of employees and allow for multiple duties. They will also allow for reducing labor costs by allowing more outsourcing of noncore jobs and will eliminate job classifications that require higher staffing levels. Greater flexibility will be allowed in managing skilled

trades workers by letting them work on more than one type of job and will permit work schedule changes—such as adding shifts or changing to a 4-day week if competitive pressures require it.

There will be agreement on the use of more variable pay for employees based on company or group performance. Cost-saving sharing plans (e.g., Scanlon plans) and gain-sharing plans will be common in defining bonuses and incentive pay.

There will be relatively little negotiating over classic legacy costs (e.g., health-care obligations for retirees, pensions, etc.) since companies, wanting to shed the crippling costs of these programs will, with the union, have formed trusts to assume management of the programs. Companies will have agreed to make one-time payments into the trust to partially or fully fund it. Committees consisting of union appointees and independent members (agreed to by the company and the union) will manage the trust assets and maintain the benefit programs. This will improve the prospects for cooperation on more immediate work process and pay issues.

RELATIONS WITH EMPLOYERS

As more cooperation and mutual interests have emerged in negotiations, unions and management will also find it to their benefit to work together in protecting their broader interests from hostile takeovers by other firms. Adversarialism will be put aside and the parties will cooperate to reduce the threat of a takeover that could reduce employment, impact the compensation structure of employees, and modify the role, structure, and personnel in management. For example, an early illustration of this came with the hostile takeover bid for Delta Airlines by US Airways in 2006. The pilots and management put aside their strong differences and worked jointly to forestall the takeover bid.

On the other hand, when there is little hope of saving a bankrupt company, unions representing employees in the bankrupt firm will work cooperatively with prospective buyout companies so that the union members are able to keep some jobs. For example, when the International Steel Group offered to purchase the assets of bankrupt Bethlehem Steel Corporation in 2003, the Steelworkers Union backed the buyout and worked cooperatively with International even though the deal called for significant job cuts and streamlined benefits for the remaining employees. Otherwise, Bethlehem, burdened by extensive debt, would have simply gone out of business and there would have been a total loss of employment.

Outside of the negotiating process, companies and their unions will have moved more toward improving internal communications, creating more transparent decision processes, and making an effort to draw upon workers’ expertise by forming management-labor committees to tackle relevant operating, quality, and customer service problems.

For example, in the airline industry, worker-management committees will focus on items such as fuel savings, baggage processes, and customer service improvements.

CONFLICT, STRIKES, AND PRESSURE TACTICS

Even with the increased emphasis on cooperation and the mutual interests of unions and management in 2025 labor relations, differences in priorities and expectations will remain in the range of issues covered in negotiations. If problem solving and mediation fail on a serious issue, the parties will resort to power tactics to pressure their opponent to concede and/or compromise.

The classic confrontational power tactic that has been used by the union is, of course, the strike—a withdrawal of services by union members. As has been noted earlier in this chapter, strike activity in the United States was at historic lows during the early 21st century. While the strike will continue to be a possible coercive weapon, it will remain at very low levels of use. Indeed, the strike will simply not have the economic power that it once enjoyed to pressure the employer. Employers with global operations may draw more heavily upon their international units and can function quite satisfactorily even though their American unit(s) may be idled. Also, employers will simply hire replacement workers to continue operations in many cases. In short, the strike will not be an effective weapon to coerce the employer in many cases.

In 2025, the pressure tactics employed by unions will focus more on the use of corporate campaigns and other actions to affect the image, market, finances, and resources of the target company. There will be international advertising campaigns pointing out the target company's perceived misdeeds, unfair treatment of workers, lack of concern for the community, and so on to undermine the company's image and standing in the broader community. Unions, through their community-based coalitions, will rally religious groups, social welfare groups, social service groups, and so on to condemn a company and its position. They may call for boycotts of company goods and services. Unions will use their financial clout with their large pension and health-care funds to induce financial institutions—that is, threaten to withdraw these funds—to, in turn, put pressure on employers to meet the union demands. Unions will attend shareholder meetings and introduce resolutions to bring public and shareholder attention to labor-relevant issues or inequities in the employer's actions. Also, labor organizations will employ civil disobedience tactics in some cases to create newsworthy events and embarrass the company.

While the classic strike action of total withdrawal will not be effective in many cases in 2025, unions will, when pressed to take action, use short-term and limited withdrawal job actions such as CHAOS (Create Havoc Around Our System). This maximizes the impact on management

and minimizes the risk to employees. For example, in the airline industry, this could mean that the flight attendants would conduct a short mass withdrawal of services (i.e., 15 minutes), or simply strike certain flights, specific cities, certain gates at an airport and so on with no advanced warning to management. The short focused action will create significant problems for management and the system while minimizing the prospect of replacement workers or actions against specific employees.

CONCLUDING COMMENTS

This chapter began with a brief review of the basic nature of labor relations in the United States. It was shown how labor relations has transitioned from a dominant factor in American economic activity in the mid-20th century to a much less significant role in the early 21st century. Several important trends were identified (including globalization, demographic changes, the shift in industry and employment structure, and growing disparity in income, and loss of benefits of American workers) that will likely affect the future of labor relations in the United States. These trends, and the responses to them, will enhance the prospect of union organization and will increase the importance of labor relations by 2025. The union movement will be consolidated structurally and more integrated with the community. Labor organizations will take on a broader role as both a business union and an agency of social change and justice. They will focus on organizing a diverse workforce in both low-level and professional service jobs using the promise of worker voice, working through community coalitions, using technology, and being providers of worker benefits. They will create workable linkages with foreign unions on a global scale to deal with transnational firms. Relations and negotiations with employers will emphasize cooperation and mutual interests, which should lead to more competitive positions for American firms. When significant differences occur, the strike will not be the weapon of choice, but the emphasis will be more on corporate campaigns, community pressure, and short-term disruptive tactics.

These projections, of course, are based on extrapolations of identified trends and specified assumptions about changes in institutions. How much of what has been predicted will actually materialize in 2025, will, obviously, not be known until that time. However, these projections can serve as a basis for discussion and analysis of an important economic and social institution and the role it will play in the future.

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PART III

MANAGING THE GLOBAL ENTERPRISE

GLOBAL MIND-SET

SCHON BEECHLER

Duke Corporate Education

ORLY LEVY

Culture Crossing Consulting

NAKIYE A. BOYACIGILLER

Sabanci University

SULLY TAYLOR

Portland State University

The topic of globalization has been around in varying forms since the beginning of the industrial revolution in the 18th century. However, globalization has accelerated over the last 2 decades and what we are witnessing today is not just a continuation of a centuries-old trend. The erosion of barriers for cross-border flow of people, goods, services, and capital supported by instant global communication and rapid flows of information has created a new economic reality that is integrating markets around the world. This emerging global network has fundamentally transformed how the economies of nations around the world operate. Although its reach and benefits are not universal, globalization is now the major driver of world economic growth and prosperity. No country is immune from its consequences, and no company that wants to operate across borders can afford to ignore its impact.

Globalization opens new growth and profit opportunities for established and new players alike. At the same time, globalization presents new and vexing challenges, driven

primarily by the ever-increasing complexity of business problems that business leaders need to address. As many authors have noted, the complexity embedded in globalization fundamentally changes the task of managing a global enterprise.

Samuel J. Palmisano, the Chair of the Board, President, and CEO of IBM, in a recent article reviewing the challenges and opportunities facing global corporations like IBM, concludes that the key to their success lies in their ability to integrate every aspect of the global organization. He suggests that today's global corporations are shifting their focus from products to production and must design their strategy, management, and operations around a new goal: integrating production and value delivery worldwide.

Accomplishing this goal requires managing a high level of complexity both inside and outside of the firm. While multinational corporations (MNCs) have tried to respond to this complexity with new structures and processes, the only

component complex enough to succeed in this environment is the human organization, which, in large part, is driven by the nature of the mind-sets, assumptions, and viewpoints that decision makers bring with them to any situation. Mind-set drives discovery of new market opportunities, establishing presence in key markets and transforming presence into global competitive advantage. For this reason, global mind-set has emerged as a major long-term competitive advantage for companies competing in the global arena.

The mind-sets of key decision makers in companies influence important decisions and, therefore, organizational behavior and ultimately firm success. There is no doubt that the right strategies, structures, and processes are critical to global competitive success, but writers are also increasingly emphasizing the important role that mind-set plays both in determining these strategies, structures, and processes and in shaping their outcomes. For these reasons, global mind-set has received increasing attention in both the popular press and academic writings. However, as will become clear from the following literature review, the field is still in its infancy, it lacks clear definitions and frameworks, and it has only limited empirical research. This chapter summarizes the growing body of theoretical and empirical research in this new field and then suggests some future directions to help advance our knowledge and understanding of global mind-set and its impact on global competitiveness.

LITERATURE REVIEW

The growing recognition of the significance of global mind-set has led to the proliferation of different and conflicting definitions and perspectives in the literature. Therefore, there is still confusion about what global mind-set *is*. Four illustrative examples of the many definitions of global mind-set follow:

- Global mind-set is characterized by openness, an ability to recognize complex interconnections, a unique time and space perspective, emotional connection, capacity for managing uncertainty, ability to balance tensions, and savvy (Kedia & Mukherji, 1999).
- Global mind-set combines an openness to and awareness of diversity across cultures and markets with a propensity and ability to synthesize across this diversity (Govindarajan & Gupta, 2001).
- Global mind-set is the ability to develop, interpret, and implement criteria for personal and business performance that are independent from assumptions of a single country, culture, or context (Maznevski & Lane, 2004).
- Global mind-set is a highly complex cognitive structure characterized by an openness to and articulation of multiple cultural and strategic realities on both global and local levels and the cognitive ability to mediate and integrate across this multiplicity (Levy, Beechler, Taylor, & Boyacigiller, 2007).

In the following literature review, we catalogue the various definitions and approaches to global mind-set and take stock of what has been done thus far, both theoretically and empirically. The review draws on a systematic analysis of the studies related to global mind-set that have been published in books and peer-reviewed journals to date. Before reviewing the literature on global mind-set, we start by answering the more general question: What is a mind-set?

MIND-SET

A mind-set can be viewed as a lens through which people view, understand, and decode the world around them. Reality, whatever it may be, is never simply “out there” presenting itself in a clear self-explanatory manner. People may experience reality as obvious and apparent, but underneath this sense of simplicity and clarity lies a complex, if at times unconscious, process of sensemaking. People actively make sense of the world around them, and more often than not, this process of sensemaking does not begin with a clean slate. Rather, people approach reality armed with a mind-set that affects what they notice, understand, learn, and remember from any given situation. In a way, mind-set serves to “disarm” reality, rendering it seemingly more intelligible, logical, and clear.

But what is this mysterious thing called mind-set? How does it help people decode reality, be it familiar or foreign, clear or ambiguous? And why does mind-set at times obscure reality rather than decipher it? A quick excursion into the history of social psychology can shed light on the concept of mind-set. After World War II, social psychology moved away from a behavioral approach, which viewed social behavior as determined by external events, to a cognitive approach. According to the cognitive approach, individuals do not simply respond to external stimuli, but rather actively interpret the world around them. The focus shifted to individuals’ mental activities and cognitive capabilities involved in the process of sensemaking. The question then became how individuals make sense of various objects, events, and situations they encounter, especially when the available information is complex, overabundant, ambiguous, or insufficient. Here is where mind-set comes into play. Social psychologists noticed that the process of sensemaking, more often than not, is driven by cognitive schema where past experiences and knowledge guide present information processing. Thus, rather than let reality speak for itself, individuals often impose their existing schema or mind-set on what they encounter.

The concept of mind-set and similar concepts such as schema, gestalt, and script are all part of a broad conceptual family of cognitive structures. Cognitive structures are mental templates that represent and organize information, assumptions, and ideas about a specific environment, situation, object, or event. Cognitive structures can be elaborate and complex, containing a comparatively large number of finely articulated and well-integrated information units. On

the other hand, cognitive structures can be relatively simple, containing relatively small, basic, and a diffuse number of information units.

In order to identify the properties of a specific type of mind-set such as a global mind-set, researchers often first outline the main dimensions of the environment that this specific mind-set confronts. In the case of global mind-set, the majority of writers consider global mind-set in relation to the global environment, particularly, in relation to two salient dimensions of this environment: strategic complexity and/or national and cultural diversity (Levy, Beechler, Taylor, & Boyacigiller, 2007). This review is therefore organized around these two broad approaches, beginning with research taking a *cultural perspective*. Building on the important work of Perlmutter and his colleagues, writers taking a cultural perspective on global mind-set focus on cultural distance and diversity related to global markets and operations and emphasize the challenges inherent in managing across national and cultural boundaries.

A number of other writers approach global mind-set from a *strategic perspective*, which builds heavily on the groundbreaking work of Bartlett and Ghoshal. Most writers taking this approach to global mind-set are experts in international strategy and examine the environmental complexity and strategic variety that arise from globalization. This approach focuses on the challenges of managing multifaceted operations in geographically distant and strategically varied businesses while simultaneously responding to local conditions and needs.

Finally, drawing heavily on the foundational work of Rhinesmith, there is a third group of writers who take a *multidimensional perspective*, which conceptualizes global mind-set from both the cultural perspective and the strategic perspective simultaneously.

The Cultural Perspective

Research in the cultural school of thought looks at global mind-set through the lens of cultural diversity inherent in the globalization process. According to this perspective, senior managers are increasingly faced with the challenge of prevailing over domestic myopia and an ethnocentric mind-set, traversing cultural boundaries, interacting with employees from many countries, and managing culturally diverse interorganizational relationships. The cultural perspective proposes that the way to manage these challenges effectively is to move away from an ethnocentric mind-set and cultivate a global mind-set—one that includes cultural self-awareness, openness to and an understanding of other cultures, and the selective incorporation of foreign values and practices.

This cultural perspective is based in large part on Perlmutter's (1969) typology of MNCs, which proposes that companies can be categorized not by their geographical scale or scope but by the mind-sets of senior executives within the firm. Perlmutter distinguishes between three

principal states of mind toward managing a multinational enterprise: *ethnocentric* (home-country orientation), *polycentric* (host-country orientation), and *geocentric* (world orientation). Perlmutter proposes that these orientations or mind-sets affect and mold various characteristics of the MNC including structural design, strategy, and resource allocation, and, in particular, management mind-set and processes. An ethnocentric orientation is expressed in terms of headquarters and national superiority attitudes: "We, the home nationals of X company, are superior to, more trustworthy and more reliable than any foreigner in headquarters or subsidiaries" (p. 11). A polycentric orientation takes the form of a respectful disengagement from foreign cultures: "Let the Romans do it their way. We really don't understand what is going on there, but we have to have confidence in them" (p. 13). Managers with a global mind-set, or those with a geocentric orientation in Perlmutter's terms, exhibit a universalistic, supranational approach, deemphasizing the importance of cultural differences and nationality when deciding who is capable or reliable: "Good ideas come from any country and go to any country within the firm" (Heenan & Perlmutter, 1979, pp. 20–21).

Perlmutter's description of geocentrism is the foundation for many of the current conceptualizations of global mind-set, which concentrate on the challenge of overcoming embedded ethnocentrism and rising above nationally entrenched views. For example, Maznevski and Lane (2004) describe global mind-set as a metacapability typified by two corresponding dimensions: an inclusive cognitive structure that directs attention and interpretation of information and a well-developed competence for altering and revising this cognitive structure with new experiences. According to these authors, global mind-set is the ability to develop, interpret, and implement criteria for performance that are independent from the assumptions of a single culture, country, or context (Maznevski & Lane, 2004). In addition to focusing on mind-set or perspective, many writers in the cultural stream such as Adler and Bartholomew (1992) often discuss global mind-set in terms of cross-cultural skills and abilities.

Kobrin (1994) conducted the first empirical study that explicitly examined Perlmutter's typology and the popular assumption that firms with a global, integrated strategy and/or a global organizational structure will have a geocentric mind-set. However, Kobrin finds that while there is an association between a geocentric mind-set and the geographic scope of the firm, the causal direction is not clear. He proposes that global mind-set should be considered a multidimensional construct rather than a unidimensional reflection of firm-level characteristics. Some recent empirical research in multinational corporations by the authors of this chapter (Beechler, Levy, Taylor, & Boyacigiller, 2004; Taylor, Levy, Boyacigiller, & Beechler, in press) indicates that employees' perceptions of geocentrism have important individual and organizational outcomes and are positively related to organizational commitment.

The Strategic Perspective

The previously reviewed studies highlight the significance of cultural diversity and transcending national borders. In contrast, studies examining global mind-set through a strategic lens focus on the increased complexity generated by globalization. MNCs are faced with the challenge of successfully managing environmental and strategic complexity and incorporating geographically distant operations and markets while simultaneously responding to local demands.

The strategic perspective on global mind-set is founded in international strategy research that was conducted at Harvard University in the 1970s and 1980s, particularly the innovative research of Bartlett and Ghoshal. The literature taking a strategic perspective is based on the assumption that increased complexity, heterogeneity, and indeterminacy of MNCs (Doz & Prahalad, 1991) can no longer be managed by structural and administrative mechanisms. Thus, this approach proposes that the key determinant of strategic capabilities of an MNC lies in cultivating a complex managerial mind-set. The properties of global mind-set are described in terms of high cognitive abilities and information processing capabilities that allow managers to understand complex global dynamics, balance between competing demands and concerns, reconcile tensions between global and local, differentiate between and integrate across cultures and markets, and examine and attend to global issues.

In describing global mind-set, for example, Jeannet (2000) underscores the capacity to assimilate across domains and defines global mind-set as a state of mind able to understand a business, a particular market, or an industry sector on a global basis. An executive with a global mind-set has the ability to see across many territories and focuses on commonalities across markets rather than emphasizing differences among countries. According to Jeannet, global mind-set is not a linear extension of the multinational mind-set but diverges significantly in terms of thinking patterns, responses, and cognitive skills. In addition to applying global mind-set to the individual level, Jeannet also applies it at the corporate level and characterizes corporate global mind-set as the cultural aspects of a company that define the extent to which the firm has learned to think, behave, and operate in global terms (p. 199).

While some authors in the strategic perspective stream characterize global mind-set in relation to managers' abilities to appreciate, distinguish, and integrate across complex global dynamics, a few studies within this stream focus on effectively balancing global integration with local responsiveness or on reconciling the tension between "thinking globally" and "acting locally." Murtha, Lenway, and Bagozzi (1998) define global mind-set as the cognitive processes that balance competing functional, business, and country concerns. In their empirical study of the correlation between global mind-set and cognitive shift in a major MNC, these researchers observed that the transformation

in the global strategy of the firm brought about a cognitive shift among managers in the organization toward a more global mind-set. Begley and Boyd (2003) similarly focus on managing the tension between the global and the local, analyzing global mind-set at the corporate level. Echoing Jeannet (2000), they contend that in order to embed global mind-set on an organization-wide level, supporting policies and practices must be in place to manage tensions relating to structural (global formalization vs. local flexibility), procedural (global standardization vs. local customization), and power (global dictates vs. local delegation) concerns. Similarly, Kefalas (1998) focuses on the tension between thinking globally and acting locally and maintains that global mind-set is typified by high levels of both conceptualization (the expression of fundamental ideas that depict a phenomenon and the identification of the major relationships between these ideas and the whole) and contextualization (the adaptation of a conceptual framework to the local environment) abilities.

Testing the relationships that Kefalas (1998) proposed, Arora, Jaju, Kefalas, and Perenich (2004) observed that managers are more adept at thinking globally (conceptualization) than they are at acting locally (contextualization). Their study also shows that, of all demographic characteristics measured to predict managers' global mind-sets, training in international management, manager's age, foreign country living experience, family member from a foreign country, and job experience in a foreign country have the most statistically significant impacts.

Govindarajan and Gupta (2001) also consider the capacity to concurrently take local cultures and markets and global dynamics into account when making decisions as the central attribute of global mind-set. They define global mind-set as a knowledge structure that combines an openness to and awareness of diversity across cultures and markets with a propensity and ability to synthesize across that diversity (p. 111). These authors characterize global mind-set at the corporate level as the combined global mind-set of individuals, adjusted for the distribution of power and influence among the group. They believe that global mind-set is critical to success and their advice is that if a company's goal is to secure and maintain global market leadership in its industry, it must strive to develop a global mind-set in every unit and every employee.

Three recent empirical studies examine the relationship between firm strategic position, market characteristics, and global mind-set. Harveston's, Kedia's, and Davis's (2000) research finds that managers in firms which are "born global" (are global from their founding) have a stronger global mind-set, more international experience, and higher risk tolerance than managers of gradually globalizing firms. Another study conducted by Nummela, Saarenketo, and Puumalainen (2004) finds that market characteristics—the level of globalization of the market in which the firm operates and the turbulence of the market—are positively related to global mind-set. Management experience, measured as

international work experience, is also positively related to global mind-set while international education is not. The most recent empirical study considers the relationship between the top management team's decision environment and their global mind-set (Bouquet, 2005). In this study, Bouquet defines global mind-set as an awareness of global strategic issues, and management attention is considered to be the primary expression of global mind-set. Bouquet's empirical research supports his hypothesis that global attention structures (e.g., structural positions related to globalization and/or global meetings), which firms establish in order to regulate the distribution of attention in managers in the firm, will mediate the relationship between firms' decision environments and top management teams' attention. The results demonstrate a concave relationship between top management team attention to global issues and firm performance, and Bouquet concludes that both inadequate and excessive amounts of management attention to global strategic issues can have a negative impact on firm performance.

In contrast to the previously mentioned studies that examine the relationship between a firm's characteristics and global mind-set, Levy (2005) analyzes the relationship between top management team attention patterns and a firm's strategic position. In her empirical research, she finds consistent support for the proposition linking top management team attention patterns and strategy and concludes that firms are more likely to be highly global when their top management focuses on the global environment and takes a diverse set of this environment's elements into account during decision making.

A number of other empirical studies of global mind-set at the top management team level use background characteristics of team members, particularly international experience, as a proxy for global mind-set. The underlying premise of this research stream is that international experience exposes executives to different cultures, value systems, languages, and institutional environments, as well as to diverse information and knowledge sources. This exposure, in turn, results in superior cross-cultural and cognitive abilities. These studies examine the relationship between international experience and a variety of organizational outcomes, including internationalization, financial performance, choice of entry mode, and learning. Many of the studies find a positive relationship between international experience of top management and internationalization although Athanassiou and Nigh's (2002) research points toward the conclusion that the impact of international experience of each top management team member is not equal but weighted by his or her centrality within the team.

Daily, Certo, and Dalton's (2000) research and Carpenter, Sanders, and Gregersen's (2001) research also find a positive relationship between international experience of senior executives and the firm's financial performance. At the same time, Roth (1995) in his empirical study finds that international experience as measured by managing international activities has no direct or interactive effect on performance but international experience measured by

overseas assignments has a direct effect when there is a high degree of internationalization and a negative effect when there is a low degree of internationalization. Finally, other research on top management teams by Caligiuri and her colleagues uses national diversity as an indicator of international experience and finds a positive relationship between national diversity of the top management team and internationalization.

The Multidimensional Perspective

In addition to the two major schools of thought in the global mind-set literature just described, a third category of research integrates both the cultural and strategic dimensions. Research taking a multidimensional perspective began with the work of Rhinesmith (1992) who defines mind-set as a way of being—an orientation to the world that allows you to see certain things that others do not see. A global mind-set, as Rhinesmith defines it, scans the world from a broad perspective, always looking for unexpected trends and opportunities. People with global mind-sets are more inclined to search for the broader context, accept life as a balance of conflicting forces, and have more confidence in organizational processes than in organizational structure. They hold diversity in high regard, and surprises or uncertainties do not threaten them. They aspire to be open to themselves and others. Global mind-set therefore involves high levels of cognitive capabilities, particularly those involving scanning and information processing, in addition to the capacity to integrate competing realities and demands and the ability to value cultural diversity.

A number of recent writings in the field of global mind-set build directly on Rhinesmith's multidimensional perspective. For example, Kedia and Mukherji (1999) view global mind-set as distinguished by openness and a capacity to identify complex interrelationships. These authors describe three components that distinguish a global mind-set: (a) a unique time perspective, (b) a unique space perspective, and (c) a general disposition to be open-minded toward other people and cultures. For Kedia and Mukherji, those with a global mind-set think of cultural diversity as an asset, thrive on ambiguity, and have the ability to balance conflicting viewpoints and demands and to reframe boundaries. According to these authors, global mind-set also includes an emotional connection, a capacity to balance conflicting tensions, and aptitude for managing ambiguity and savvy. To be effective, managers need both a global mind-set and a specific supportive skill and knowledge set.

The most recent contribution to the multidimensional stream is an article by Levy, Beechler, Taylor, and Boyacigiller (2007), which reviews the literature and highlights two important constructs underlying writing in the global mind-set field: cosmopolitanism and cognitive complexity. Cosmopolitanism emphasizes the individual's level of engagement and ability to navigate through unfamiliar cultures with an external and open focus. Two aspects of cosmopolitanism are important to global mind-set. First is an

orientation toward the outside and the external environment rather than a focus on the inside, the local, or the parochial. A second key aspect is the characteristic of openness, which represents being not only interested in others but also willing to engage in, to be open to, and to learn from exploring the alternative systems of meanings held by outsiders. While cosmopolitanism is important to a global mind-set, it does not mean that individuals do or should forego their historic roots or their cultural heritage.

The second dimension identified by Levy, Beechler, Taylor, and Boyacigiller (2007) is cognitive complexity, which consists of two dimensions: differentiation and integration. Differentiation is the number of constructs or dimensions used to describe a domain while integration refers to the number of links among the differentiated constructs. People who are more cognitively complex can simultaneously hold and apply several valid but competing and complementary interpretations of a domain or situation. Cognitive complexity is also associated with the capacity to balance contradiction, ambiguities, and trade-offs and with the ability to manage dualities or paradoxes.

These authors define global mind-set at the individual level as a highly complex cognitive structure distinguished by an openness to and expression of multiple cultural and strategic realities at both the global and local levels, and the cognitive capacity to moderate and assimilate across this diversity (Levy, Beechler, Taylor, & Boyacigiller, 2007). They link global mind-set and managerial action through an information-processing model, which is based on three underlying assumptions. First, individuals have limited information-processing capabilities and consequently pay attention only to certain aspects of the environment while ignoring others. Second, individuals interpret this environmental information, thus giving structure and meaning to the data. Third, these interpretations affect action and, ultimately individual and organizational outcomes.

Furthermore, the impacts of individual cognitive structures on decision making and outcomes are especially prominent in dynamic and complex environments that are characterized by information overabundance, uncertainty, and ambiguity. Under these conditions, according to Abrahamson and Hambrick, when the environment does not provide clear cognitive cues, attention and interpretation patterns have a tendency to mirror individual predilections instead of environmental constraints.

Global decision-making environments are characterized by rapid change, uncertainty, and complexity, and they therefore enhance the impact of mind-sets on organizational decisions and outcomes. At the information gathering stage, for example, cognitive structures influence attention patterns by focusing attention on certain facets of the environment while blocking others. Cognitive structures thus function as a lens through which individuals observe their environment. A global mind-set shapes information-processing patterns by directing attention to various contrasting sources of information about both global and local environments. Cosmopolitanism produces an open and non-

judgmental approach to the perception of information, thus allowing individuals to be open to and to acquire information from a number of sources regardless of their national or cultural origin. At the same time, cognitive complexity enables individuals to distinguish and effectively communicate more information elements and to incorporate them into more complex conceptualizations or schemas.

The impact of cognitive structures goes beyond influencing attention and information acquisition to affect how individuals interpret patterns of information. During the interpretation stage, cognitive structures have an effect on “sensemaking,” the process of how information is perceived, interpreted, assimilated, and understood (Daft & Weick, 1984). Cosmopolitanism enables individuals not only to perceive but also to evaluate information irrespective of its national or cultural origin. At the same time, individuals with high integrative abilities can synthesize information from diverse and unlikely sources and incorporate a variety of interpretive frameworks into the decision-making process.

Finally, the combination of cosmopolitanism and cognitive complexity can help individuals create new and more complex understandings of their environment. Global mind-set therefore influences interpretive processes by encouraging the nonprejudicial and nonjudgmental perception and evaluation of information, incorporation of information from various sources, and deliberation on both the interpretive process itself and existing mental models. Individuals with a global mind-set are more likely to produce complex, innovative, and unconventional explanations that do not simplify global realities but rather present them in all of their complexity and ambiguity (Levy, Beechler, Taylor, & Boyacigiller, 2007).

GLOBAL MIND-SET AND EFFECTIVE MANAGERIAL ACTION

As previously discussed, the attention and interpretation processes associated with a global mind-set influence individuals’ abilities to understand and act effectively in a global context. However, in addition to mind-set, research in international management suggests that a set of core skills and competencies are required to translate this mind-set into effective managerial behavior. Drawing on an extensive review of the literature, Bird and Osland (2004) developed a framework of global competencies, which includes global mind-set as one of the building blocks. At the base of their pyramid-shaped framework is global knowledge and a set of four personality traits: integrity, humility, inquisitiveness, and hardiness. According to these authors, the possession of adequate knowledge along with the prerequisite traits allows for the development of global mind-set. However, these foundational competencies—knowledge, traits, and mind-set—do not translate into effective managerial behavior unless the individual has the necessary interpersonal and system skills and abilities.

Bird and Osland (2004) specify two skills at the interpersonal level: mindful intercultural communication and the ability to build and create trust. At the system level, they identify the following skills: the ability to span boundaries, build community through change, and make ethical decisions. Their work therefore suggests that while global mind-set is a critical competency, effective managerial action in a global context requires additional skills and abilities.

We should note, however, that individuals who possess the requisite set of interpersonal and system skills and abilities are not likely to exhibit effective managerial action *unless* they also possess a global mind-set. In this context, an interesting and yet unresearched question raised by Earley and Mosakowski's (2004) work is whether a person can develop the requisite set of skills and abilities without at least concurrently developing a global mind-set. These authors identify a set of skills and abilities that they label "cultural intelligence"—the capability for a person to grasp what makes us human and at the same time what makes each of us different from one another and to be able to adjust behavior accordingly.

Cultural intelligence has three sources: (a) cognitive understanding of what makes a culture unique, driven by innate curiosity and a learning attitude; (b) behavioral flexibility, the ability to receive and reciprocate gestures that are culturally determined; and (c) high self-efficacy, the confidence to believe that one can understand people from different cultures (Earley & Mosakowski, 2004, p. 3). Cognitive understanding is necessary because it is difficult, given the complexity of the competing cultural factors that affect behavior (Osland & Bird, 2000), for a person to simply mimic the behavior of people in an unfamiliar culture and be appropriate unless he or she has understood the reasons for the behavior. Moreover, in-depth knowledge of a culture is necessary to know how to adjust behavior correctly for a myriad of unforeseen situations. A person with high cosmopolitanism is more likely to exhibit the curiosity and openness that is necessary to accumulate this depth of knowledge about other cultures, and Levy, Beechler, Taylor, and Boyacigiller (2007) argue that a global mind-set, especially cosmopolitanism, likely precedes the acquisition of the set of interpersonal and system skills and abilities that make effective managerial action possible in global settings, although they also recognize that the two are most likely self-reinforcing.

GLOBAL MIND-SET AND STRATEGIC CAPABILITIES OF FIRMS

The "noticing and constructing meaning" processes linked to global mind-set have important implications for the strategic capabilities of the firm. Whereas strategic behavior is influenced by a large number of factors, both the managerial cognition and the upper echelon perspectives in the strategy literature imply that information-processing capabilities of employees, especially those in senior positions,

have a very strong effect on strategic response. What is more, these capabilities are particularly significant under conditions of complexity, uncertainty, and rapid change, when strategic response entails interpreting and "enacting" the business environment.

Senior managers interpret issues applicable to strategic decision making, and they will typically have the status required to execute choices resulting from those interpretations. Levy, Taylor, Boyacigiller, and Beechler (2007) suggest that because senior executives who possess a global mind-set are externally focused rather than internally focused, they are more likely to be exposed to diverse sources of information and thereby develop insights regarding environmental dynamics, threats, and opportunities, as well as changes and trends. This managerial focus is likely to result in superior and innovative strategies.

At the same time, some recent evidence suggests that global mind-set may not always translate into superior performance and effectiveness. For example, as we noted previously, Bouquet (2005) finds a curvilinear relationship between top management teams' global mind-set and firm performance. Beyond intermediate levels of global mind-set, MNCs experience diminishing returns, after which negative returns set in. Also as previously noted, Roth (1995) reports a negative relationship between CEOs' expatriate experience and performance in the case of companies with low levels of international interdependence. This evidence suggests that the relationship between global mind-set and organizational effectiveness may be contingent on organizational strategy and environmental factors. Levy, Taylor, Boyacigiller, and Beechler (2007) therefore suggest, but have not empirically validated, the proposition that the impact of global mind-set on organizational effectiveness is most likely mediated by strategy implementation capabilities and moderated by environmental and firm characteristics.

Obviously, the strategy implementation capability of MNCs is one of the most compelling issues outstanding in the field of international management. Developing implementation capabilities involves a variety of organizational initiatives and repeated cycles of aligning and fine-tuning. In this context, Levy, Taylor, Boyacigiller, and Beechler (2007) point to two often neglected mechanisms that can enhance the impact of global mind-set on organizational effectiveness. First, these authors suggest that MNCs need to develop a shared understanding of what it means to be a global company and that the ways in which the practice of globalization is debated, interpreted, defined, and shared dramatically affects various aspects of organizational life including global strategy implementation. Often, senior managers possess a global mind-set and have broad and deep conceptions of globalization realities and dynamics. However, companies as a whole frequently cannot effectively translate these complex individual understandings into organizational policies and actions. A global mind-set does not immediately translate into a complex company-wide interpretation and implementation of global strategy. Rather, developing a shared understanding of the practice

of globalization through an ongoing constructive debate can facilitate translating global mind-set into a company-wide platform and assist in global strategy implementation (Levy, Boyacigiller, Taylor, & Beechler, 2002).

Second, Levy, Taylor, Boyacigiller, and Beechler (2007) suggest that MNCs need to develop flexible structures and processes that span organizational boundaries in order to disseminate global mind-set throughout the corporation. Establishing boundary spanning processes and practices such as global responsibility designations, global teams, ad hoc project groups, networks, and shared task groups can influence the development of global mind-set, thus unifying employees around a common understanding and set of objectives. This shared understanding, in turn, can facilitate global strategy implementation by promoting communication and cooperation across organizational boundaries.

In addition, these authors suggest that the impact of global mind-set on effectiveness is most likely moderated by environmental and firm characteristics. They argue that an optimal fit between global mind-set and environmental and firm characteristics can positively affect organizational effectiveness, and they focus on two key considerations—namely, the level of environmental dynamism and complexity and the firm's international strategy.

Senior executives who operate in an environment characterized by rapid changes, dynamism, and complexity must have a global mind-set in order to understand and respond to their environment. Under such conditions, global mind-set is more likely to have a positive influence on firm's effectiveness. On the other hand, it is quite possible that when executives operate in a relatively stable environment, global mind-set becomes irrelevant or even a liability because it imposes unnecessary complexity where simplicity is more effective and efficient (Levy, Taylor, Boyacigiller, and Beechler, 2007).

Similarly, a firm's international strategy is also likely to affect the relationship between global mind-set and effectiveness. High levels of internationalization put increased levels of information-processing demands on senior executives, which require significant information processing capabilities or a global mind-set. Thus, it is possible that global mind-set has a positive impact on organizational effectiveness in the case of high levels of internationalization and is irrelevant or even damaging in the case of low levels of internationalization. For example, there is some empirical evidence that strong CEO international experience negatively affects performance when international interdependence is low (Roth, 1995). This suggests that for global mind-set to have a positive impact on effectiveness there should be a fit between international strategy of the firm and the level of global mind-set of its senior executives (Levy, Taylor, Boyacigiller, & Beechler, 2007).

At the same time, global mind-set entails high levels of information-processing demands, which could overwhelm decision makers, slowing down decision making to unacceptable levels. Thus, it is possible that even when higher levels of global mind-set among key decision makers is

required, global mind-set will have a positive impact on a firm's effectiveness only when it is accompanied by support structures and processes within the firm such as modular networks, communities of practice, distributed management, and centers of excellence (Begley & Boyd, 2003).

DEVELOPING A GLOBAL MIND-SET: ORGANIZATIONAL ACTION STEPS

Companies concerned about having a sufficient number of managers with a global mind-set must look first and foremost at the human resource management practices they use. Research makes clear that human resource management (HRM) policies can either impede or undermine global mind-set development. In the following section, we will briefly discuss the major HRM components that impact global mind-set development.

Selection Practices and Global Mind-Set Development

Cosmopolitanism and cognitive complexity can be used as important criteria when initially choosing potential candidates for managers in global companies. Individuals can be selected on their cognitive complexity, as this characteristic is probably one of the most difficult elements to change after hiring and is determined primarily by nature rather than nurture. To determine a job candidate's cognitive complexity capability, a company can add exercises to assessment center selection procedures that have been found to be effective in choosing candidates for international careers. These exercises can be structured to identify people who see multiple dimensions of a problem as well as the interconnections among them. However, the company has to leverage the selection assessment center experience to make sure that the candidate receives feedback concerning areas he or she needs to develop further. In addition, identifying activities and accomplishments in the candidate's background that demonstrate an ability to differentiate and integrate across a great deal of information such as running complex projects can be used as indicators of potentially high cognitive complexity (Boyacigiller, Beechler, Levy, & Taylor, 2004).

The second component of global mind-set, cosmopolitanism, or at least a propensity toward it, can be seen in a candidate's background as well. Past research suggests that education in other countries, relatives (e.g., parents) from other countries, and foreign language ability are all associated with a more cosmopolitan orientation. People can demonstrate openness toward others and interest in the world in a variety of other ways such as the travel they have voluntarily undertaken, the media they read, and the hobbies they pursue.

What *is* clear is that multinational organizations need to draw from a wide pool of candidates. A company that restricts itself to hiring candidates that are only of a certain

nationality, gender, or background will be at a disadvantage because such practices decrease the pool in which to find candidates who are cognitively complex and cosmopolitan. As one of our colleagues, Charles Vance, notes, companies need to cast a wider net, to view the entire globe as a source of talent. In addition, it is highly unlikely that a global mind-set will develop within a management team that is not diverse (Boyacigiller et al. 2004).

Training and Global Mind-Set Development

Both before candidates have been selected into the firm and after, the development process used with them to nurture a global mind-set must be carefully considered. Initially, some kind of assessment should occur. In this vein, Govindarajan and Gupta (2001) provided a set of diagnostic questions to help organizations ascertain whether their employees have a global mind-set:

1. In interacting with others, does national origin have an impact on whether or not you assign equal status to them?
2. Do you consider yourself as equally open to ideas from other countries and cultures as you are from your own country and culture of origin?
3. Does finding yourself in a new cultural setting cause excitement or fear and anxiety?
4. When visiting or living in another culture, are you sensitive to the cultural differences without becoming a prisoner of these differences?
5. When you interact with people from other cultures, what do you regard as more important: understanding them as individuals or viewing them as representatives of their national cultures?
6. Do you regard your values to be a hybrid of values acquired from multiple cultures as opposed to just one culture? (p. 115)

In addition, there is a long history and a broad repertoire of cross-cultural training methods, many of which are helpful for the development of a global mind-set. Recent research suggests that living and working in a foreign country is probably the most powerful tool to develop global mind-set. Furthermore, researchers suggest that there are four key aspects of a successful program to develop global leaders or managers with a global mind-set. It should be multimethod, aligned with the organization, transparent, and inclusive.

Perhaps the most important aspect of global mind-set development is the recognition that it must draw on a myriad of methods in order to foster both cosmopolitanism and cognitive complexity. Research has shown that experiential learning is extraordinarily important—as much as 50% of learning occurs through work experience. Companies from different countries will emphasize different methods

for developing global leaders and their attendant global mind-sets. Despite these differing approaches, we make a recommendation that focuses on the process: the company should look at a series of tasks or assignments that build in difficulty and impact on global mind-set, starting with international business projects and building to global responsibility for a product or service. The expatriate assignment must be carefully managed, however, in order for it to contribute to development of a global mind-set. Simply posting managers overseas will not necessarily result in the development of a global mind-set either in the individuals or in the organization. The expatriate assignment is just one, albeit an important one, of these progressively more global assignments that help to transform managers into leaders with global mind-sets (Boyacigiller et al. 2004).

Networking and collaborative opportunities can also help to create a global mind-set and effective global leadership repertoires and behaviors. For example, global teams can be used as effective collaborative coordination tools to help develop a global mind-set and hone global leadership skills. Staffing teams with members from diverse countries, backgrounds, and functional specialties can help members appreciate and understand multiple perspectives on challenges and opportunities faced by the firm and provide valuable practice opportunities. In addition, cross-national communities of practice, knowledge networks, and global meetings can all play an important role in exposing employees to different ways of thinking, diverse sources of information, and can help to foster a global mind-set and global leadership competencies (Beechler & Javidan, 2007).

Alignment and transparency of HR policies are also important in the process of developing global mind-sets. For example, given the need to develop a solid knowledge basis in the company's business and operations, as well as the need to preserve the social capital required to interact across global organizational boundaries, it is preferable to institute a long-term employment relationship. Global employees who feel they can trust and rely on the goodwill of others within the firm will be able to access information and coordinate more easily than when social capital is low. Employees who feel they are long-term employees of the firm are more likely to build the requisite relationships and trust (Boyacigiller et al. 2004).

Finally, the global mind-set development system must be inclusive. Including candidates from many nationalities signals the company's commitment to cosmopolitanism as an important value, that is, its own openness to others. As mentioned previously, firms that exclude candidates from development activities on criteria such as gender and nationality will create top management teams constrained by their homogeneity. In addition, as noted earlier, inclusiveness in the development process will foster a greater sense of equity and enlarge the pool from which to choose candidates with the requisite initial capabilities (Boyacigiller et al. 2004).

Career path planning and international assignments help develop global mind-set and global leadership competen-

cies. A career path should provide for recurring local and global assignments and the ideal career path should alternate between local, global, local, and again global assignments. For example, SmithKline Beecham follows a policy that requires candidates for senior management positions to have a “2+2+2” experience, that is, hands-on experience in two businesses, in two functions, and in two countries. With each new assignment, these managers broaden their perspectives and establish informal networks of contacts and relationships (Paul, 2000, p. 197).

While these assignments and other activities can be used to build cosmopolitanism and cognitive complexity, they can also lead to less desirable outcomes. Research shows that an international assignment does not necessarily lead to a global mind-set. Sometimes, it can lead to an increase in prejudice and cultural stereotypes. Learning from experience in an unfamiliar context may be particularly difficult since the cues people give about areas of conflict or to indicate the existence of a problem vary from one culture to another, as does the way in which they provide feedback. As individuals have cross-national and cross-cultural experiences, it is critical that they are able to step back, reflect, and learn quickly, deeply, and well from their experiences so that they can apply this new knowledge and insight to future experiences. As McCall and Hollenbeck have shown in their research, those who have the capability to expose themselves to challenge and then learn quickly from it have been shown to have the greatest global leadership potential. One way to enhance learning and develop a global mind-set as well as effective global leadership behaviors is through facilitated reflection and reframing of setbacks and failures as critical learning and development opportunities (Beechler & Javidan, 2007). A proactive HR function is therefore needed to effectively manage the international assignment and the expatriate’s experiences so that they lead to positive outcomes (Boyacigiller et al. 2004).

DEVELOPING A GLOBAL MIND-SET: INDIVIDUAL ACTION STEPS

With the changing nature of the psychological contract between individuals and organizations more responsibility than ever rests on individuals to ensure their own long-term development and employability. Organizations increasingly view international experience and the development of a global mind-set as prerequisites to upward mobility. Moreover, managers are increasingly seeking international assignments for the personal development and skills they may acquire as part of a “boundaryless” career, not necessarily to advance within a specific firm.

Govindarajan and Gupta (2001), building on work in cognitive psychology, human development, and technological innovation, argue that the development of a global mind-set at either the individual or the organizational level, follows a series of *s*-curves and is a nonlinear process. The development of global mind-set, like the development of

any cognitive schema, involves both assimilation and accommodation of new information. It must be an ongoing process built on an articulation of self-awareness and other-awareness. Novices begin by following rules, then, as they gain practical experience, they begin to understand general patterns. As they become more competent, they recognize complexity and a larger set of cues. They are able to discern which cues are the most important and move beyond strict adherence to rules to think in terms of trade-offs. Once they reach the expert stage, they can read situations without rational thought—they diagnose the situation unconsciously and respond intuitively because over the years they have developed the holistic recognition, the mental maps that allow for effortless framing and reframing of strategies and quick adaptation (Osland & Bird, 2004). Their knowledge is, at this point, tacit (Boyacigiller et al., 2004).

Thus, the development of a global mind-set is a dynamic sensemaking cycle that follows the three steps of our effectiveness cycle: (1) perceive and analyze the situation, (2) select an appropriate response, and (3) act effectively. The first step involves the ability to decode and diagnose the context accurately. The second step involves knowing what managerial action will work in a particular situation and the third step of behaving appropriately is made possible by an adequate behavioral repertoire as well as the behavioral flexibility to enact the script correctly (Osland and Bird, 2004; Boyacigiller et al., 2004).

Directions for Future Research and Summary

The capabilities linked to global mind-set are crucial elements in contemporary MNCs, considerably influencing the global competitiveness of firms. Researchers, however, are still faced with the challenge of explaining the complex construct of global mind-set and further identifying its antecedents and outcomes.

As our review and analysis of the literature imply, there are still many ambiguities and important unanswered questions concerning global mind-set. Scholars from various disciplines have endeavored to define global mind-set and it has been used to describe individual, team, and organizations, furthermore complicating research and clarity in the area. In addition, there are inconsistencies in whether global mind-set is defined as a cognitive phenomenon, a state of being, or a set of behaviors or competencies. For example, what are the similarities and differences between global mind-set, cultural intelligence, global leadership, and expatriate success?

Another current challenge in the field of global mind-set involves empirical testing. Surprisingly few studies have been carried out so far and there is no consistency across measures or outcomes, making conclusions tentative at best. At the same time, recent work has begun to synthesize what we know about global mind-set, its antecedents and consequences and to suggest directions for future research (e.g., Levy, Beechler, Taylor, & Boyacigiller, 2007; Levy, Taylor, Boyacigiller, & Beechler, 2007; Osland, Bird, Osland, &

Mendenhall, 2006). For example, Levy, Beechler, Taylor, and Boyacigiller (2007) suggest the following research agenda. First, a number of authors view global mind-set as a capability that can be developed over time but we still know very little about the dynamics of how this occurs. In addition, researchers conclude that while international experience is a key driver of global mind-set, not all individuals who go abroad develop a global mind-set. Are there certain innate qualities that are important to developing a global mind-set and what are the relative roles of nature versus nurture in this process? Longitudinal research on employees sent on international assignments is needed to determine if global mind-set does grow with international exposure and to identify mediating factors to that process. In addition, research is needed to determine how international assignments should be designed and managed to result in an increase in global mind-set. Similarly, future research should consider what types of human resource management policies and specific training programs and opportunities are more likely to foster the development of a global mind-set.

Another area for further exploration identified by Levy, Beechler, Taylor, and Boyacigiller (2007) is how global mind-set at an individual level is related to global mind-set at the team and organizational levels. For example, who in the organization needs a global mind-set? And is there a tipping point or a critical mass of individuals within the firm that needs to possess a global mind-set in order for it to have an impact on organizational performance? What is the influence of diversity within the top management team on global mind-set and what roles do organizational culture, structure, and processes play in developing and sustaining a global mind-set?

It is also unclear from the research results to date what is the relationship between global mind-set and effective managerial action. For example, what is the relationship between global mind-set and organizational performance (Levy, Beechler, Taylor, & Boyacigiller, 2007)? Fortunately, while the field of global mind-set is still in its infancy research, both theoretical and empirical, has been gaining momentum in the last few years. In addition to the recent reviews and syntheses of the literature, a number of scholars are currently developing empirical measures of global mind-set, which are critical in answering many of the questions raised previously and in helping managers in multinational corporations develop the global mind-set they need in order to succeed in the ever-globalizing dynamic business environment.

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MANAGEMENT IN DEVELOPING COUNTRIES

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A November 25, 2006 article in *The Economist* titled “Steel the Prize” discussed the takeover battle between Tata, an Indian conglomerate, and CSN, a Brazilian Steelmaker, for Corus—Corus is the Anglo Dutch company that absorbed British Steel (p. 64). This may be a harbinger of the face of the future—two giant companies from developing countries, fighting over a developed country asset. The Indian company Tata is emerging as a pioneer in automotive innovation, and China’s carmakers continue to copy cars from traditional automakers (“Carmaking in India” 2006, p. 64); at the same time Chinese-owned businesses are investing around the world, Dubai is establishing itself as a global financial center, and small and large companies from developing countries around the world are now investing in the developed world. What literature there is on management interactions between developing and developed countries implicitly assumes that managers from developed countries will be adapting to the environment in developing countries. The reverse may be more and more the reality of the management challenges of the 21st century.

In many ways, this is contrary to traditional thinking about developing countries. Until quite recently, the developing countries were seen only as the recipients of aid and investment from the developed world. This may be changing, although the developing countries remain the poorer countries of the world. Much of this chapter will discuss the implications of wealth, or its lack, on management in developing countries; however, throughout, readers should keep in mind the changing world in which we live because this changing world will determine what effective management is.

At the beginning of the 21st century, there is much discussion of the global nature of business and the need for management to be aware of the impact of globalization on business. There is little question that factors such as the relative ease of movement around the globe, innovations in communication and transportation technology, regional and international free trade agreements, international investment, continuing immigration, and so on, all contribute to a sense of the world being a global village. The reality, however, is that when we talk of globalization and international management, we are usually talking about management in the developed countries of the world. These richer countries account for a large majority of global trade and investment. These rich countries also account for most of the world’s Gross Domestic Product (GDP; the richest 20% of the world earn about 85% of the world’s GDP and the poorest 20% only 1%); however, they represent only about 20% of the world’s population. The focus of this chapter is on management in the other 80% of the world—the developing world. Figure 19.1 shows graphically the growth in the gap between the world’s richest and poorest countries from 1820 to 1997.

The most recent negotiations at the World Trade Organization, the Doha Round, had a “development agenda.” These negotiations reached a stalemate in 2006, partly because the growing power of the developing countries meant that these countries would not accept solutions dictated by their richer counterparts. The focus on the developing countries indicates the interest that the world has in these countries. There are a number of reasons for this. First is simply the fact that they do make up about 80% of the world. In addition, the gap between the rich and poor countries has

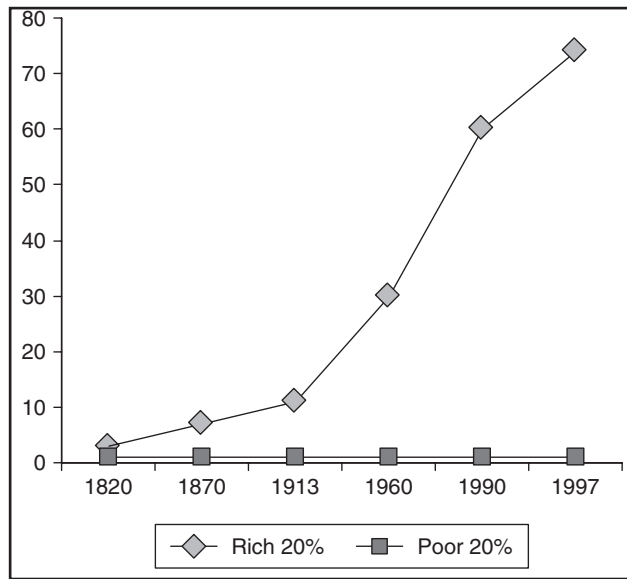


Figure 19.1 Gap Between Rich and Poor Countries

been growing, from 3 to 1 in the late 1800s to 75 to 1 in the late 1900s, and this gap worries many people. On a more positive side, the developing world is of interest because it represents a substantial potential market and workforce, and these countries can provide an array of products and services for the rest of the world.

While developing countries are often discussed as a group, as they will be here, in reality it is difficult, if not impossible, to talk of them as a group because the group is made up of such diverse countries—ranging from very large (e.g., China and India) to very small (e.g., Samoa and St. Lucia); including relatively well-off countries (e.g., Taiwan) and very poor ones (e.g., Haiti); covering a multiplicity of languages, religions, histories, and geographies; and representing all continents. This means that any discussion of these countries as a group must be tempered by a recognition that there will be as many differences among countries as there may be similarities.

This chapter begins with definitions of developing countries. It identifies the major differences between the developed countries and the developing ones. Drawing on the differences and on the literature on management in developing countries, implications for management are outlined including issues associated with ethics and corporate social responsibility. The chapter closes with a discussion of the current situation in developing countries and of how this is changing in the face of expansion of the People's Republic of China, as well as the forces leading to convergence/divergence in cultures and management practices.

DEFINITIONS OF DEVELOPMENT

Over time, the terminology used for development has varied. In the mid-1900s, the poorer countries were often referred to as “underdeveloped” or “less developed countries”

(LDCs). Sometimes they were referred to as the “third world” (in contrast to the first, rich world and the second, communist world), and sometimes a distinction was drawn between the north (where most rich countries are) and the south (where most poor countries are). Reflecting the level of industrialization that accompanies development, sometimes the richer countries are referred to as industrialized countries. More recently, the terms that have become popular are developed countries, transition economies—the countries of east-central Europe, the Balkans, the Baltics, and the CIS—and emerging markets according to the Economist Intelligence Unit (2007). In this chapter, developed and developing are used because most readers are likely to be familiar with these terms.

Whatever terminology is used, the developed countries are the richer ones and the developing are the poorer. Of course, within each group, there is a range of GDP per capita and a range of incomes. Especially in the developing countries, the range is large, with some countries being quite well-off and others being very poor (the poorest are often now called the “least developed” to identify their special needs).

Developed nations are those countries of the world considered to be more technologically and economically advanced. In contrast developing countries are relatively poorer. The specific measure that is usually used for determining a country's status is income per capita. Using this measure, according to the Economist Intelligence Unit (2007), the developed countries of the world are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Gibraltar, Greece, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, and the United States of America. All others are classified as emerging markets or transition economies.

While income per capita is traditionally used to classify countries as developed or developing, there are limitations to this measure, and it does not capture the quality of life that may be experienced in a particular country. An alternative measure is the Human Development Index (HDI), which incorporates a variety of additional measures such as health care, education, social benefits, and so on. By and large, the countries that score high on per capita income also score high on the HDI and vice versa. Nevertheless, the HDI provides a better sense of what one will experience in a particular country. For example, Barbados, although a developing country, was number 30 on the HDI list, indicating a relatively high standard of living.

POPULATION GROWTH

Population growth in more developed countries is relatively slow, while population growth in the developing countries, especially Asia and Africa, remains high. The United Nations (UN) estimates show the population in Asia growing to over five billion by 2050.

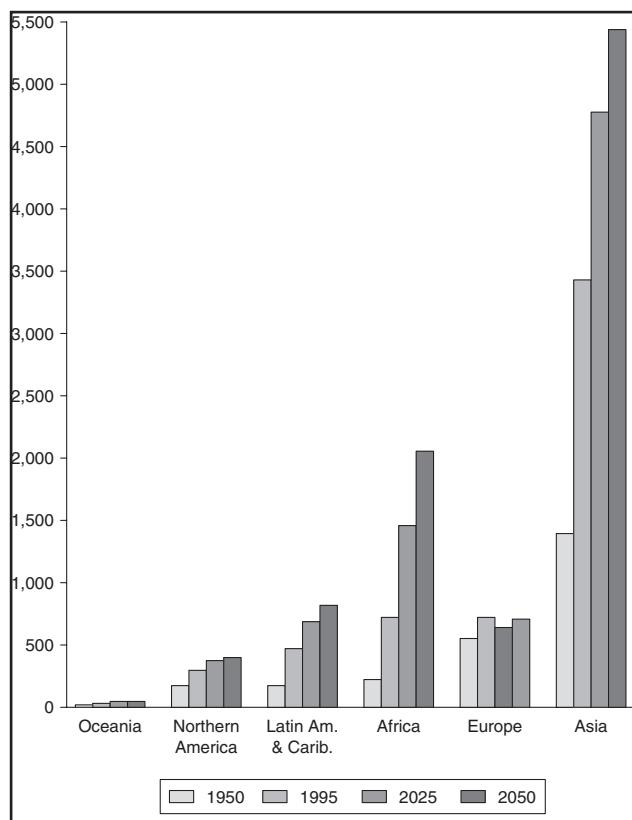


Figure 19.2 Population Growth Estimates

The developing world already makes up about 80% of the world's population. This percentage will increase in the near term. Of course, at the same time, some of these countries are becoming richer, and by 2050, they may no longer be listed among the developing countries. Nevertheless, it is clear that the sheer numbers of people likely to be in those countries now classified as developing mean that we cannot afford to continue ignoring them in research on management.

At the same time, the poverty of the developing world, combined with the richness of the developed, has resulted in substantial immigration from the poorer to the richer countries. This immigration provides pluses and minuses for each side. Migrants, both legal and illegal, are willing to undertake work that residents often eschew, and they contribute to the economies of their new countries. They send money home to their families and relieve their former countries of the burden of their welfare. Sometimes, however, they are seen as taking jobs from residents in their new homes, and contributing to a brain drain that leaves their former countries poorer.

THE REALITY IN DEVELOPING COUNTRIES

According to a report on the BBC radio in April 2002, a poll of Europeans showed a negative view of developing countries, predominantly focused on poverty and illness.

In many ways, this is the reality of developing countries. As defined previously, these are the poorer countries of the world, so they exhibit the effects of being poor. There is a more positive side to the equation, however. For example,

- per capita incomes have been growing in developing countries, and there is a growing middle class in many of these countries;
- some developing countries score quite high on the HDI, indicating that they are good places to live;
- several developing countries are experiencing high rates of growth (the People's Republic of China is a good instance);
- the developing countries represent a very substantial market, and source of supply; and
- concentrations of wealth in developing countries have allowed them to engage in outward international foreign direct investment.

Nevertheless, in most developing countries, being relatively poor means that

- people are concerned with basic needs or, in the better off developing countries, with achieving economic stability;
- infrastructure is limited—roads, railways, ports, and other physical facilities are nonexistent in some locations and only barely adequate in better off locations;
- social services are inadequate—education, health care, and social safety nets are minimal, if they exist at all; and
- resources are apparently scarce and their allocation is sometimes based on preferential systems such as individual and family need or influence.

Other differences characterize the developing countries. These include population growth, population dispersion, age distribution, literacy and numeracy levels, and gender roles according to United Nations Publications (1998, 2000, 2005). The following statistics illustrate the situation:

- Population growth rates have been substantially higher in the developing world (2%) than they have been in the developed world (0.6%). Fertility rates are also higher in the developing world (5 conceptions per woman vs. 1.9 in the developed world).
- The developing world remains more rural than the developed does (38% in cities vs. 78%). Cities are seen as places of opportunity for people in developing countries, and this results in continuing movements of people to cities that are often overcrowded and underserved.
- People in developing countries are substantially younger than those in developed countries are. It is expected that by 2015, 18% of the population in developed countries will be over 65, while only 5% of those in developing countries will be.
- Life expectancy at birth is estimated at 72 years for the world, 78.6 years for the developed countries, and 70.6 years for the developing (the lowest group is Africa at 59.5 years).

- On average, people in developed countries have better access to education, and functional literacy and numeracy is normal. Even where developing countries have relatively good educational systems, lower levels of literacy and numeracy are more generally accepted.
- In most developing countries, gender roles are more pronounced than they are in developed countries. This includes discrimination against women in terms of land ownership, family inheritance, education, and income.

In addition, there appear to be some cultural differences between developed and developing countries. People in developing countries, in general, are more collective than those in developed countries are, power differentials are more pronounced in many developing countries, and people are somewhat more averse to uncertainty and risk. In addition, there is some evidence that, on average, people in developing countries are lower on need for achievement and more external in terms of locus of control than people in developed countries are. Figure 19.3 compares developed and developing countries on masculinity/femininity,

individualism, power distance, and uncertainty avoidance, based on Hofstede's (1984) measures of cultural values. As this comparison illustrates, the clearest distinctions are lower individualism and higher power distance in the developing countries.

Of course, these value dimensions were measured in the early 1980s, and we can expect that they may change over time, particularly in response to the changing environment of the 21st century. As countries become wealthier and as their middle classes increase in size, their cultural values will also likely change.

There also appear to be some political differences between developed and developing countries. Generally, the developed countries have well-established democratic processes, while the developing countries are more likely to be ruled by a powerful individual or an elite group; developing countries with democracies are often new democracies.

Market approaches are also somewhat different between the two sets of countries. Developed countries, to a large extent, separate government and business, and support free markets and free enterprise. In developing countries, there

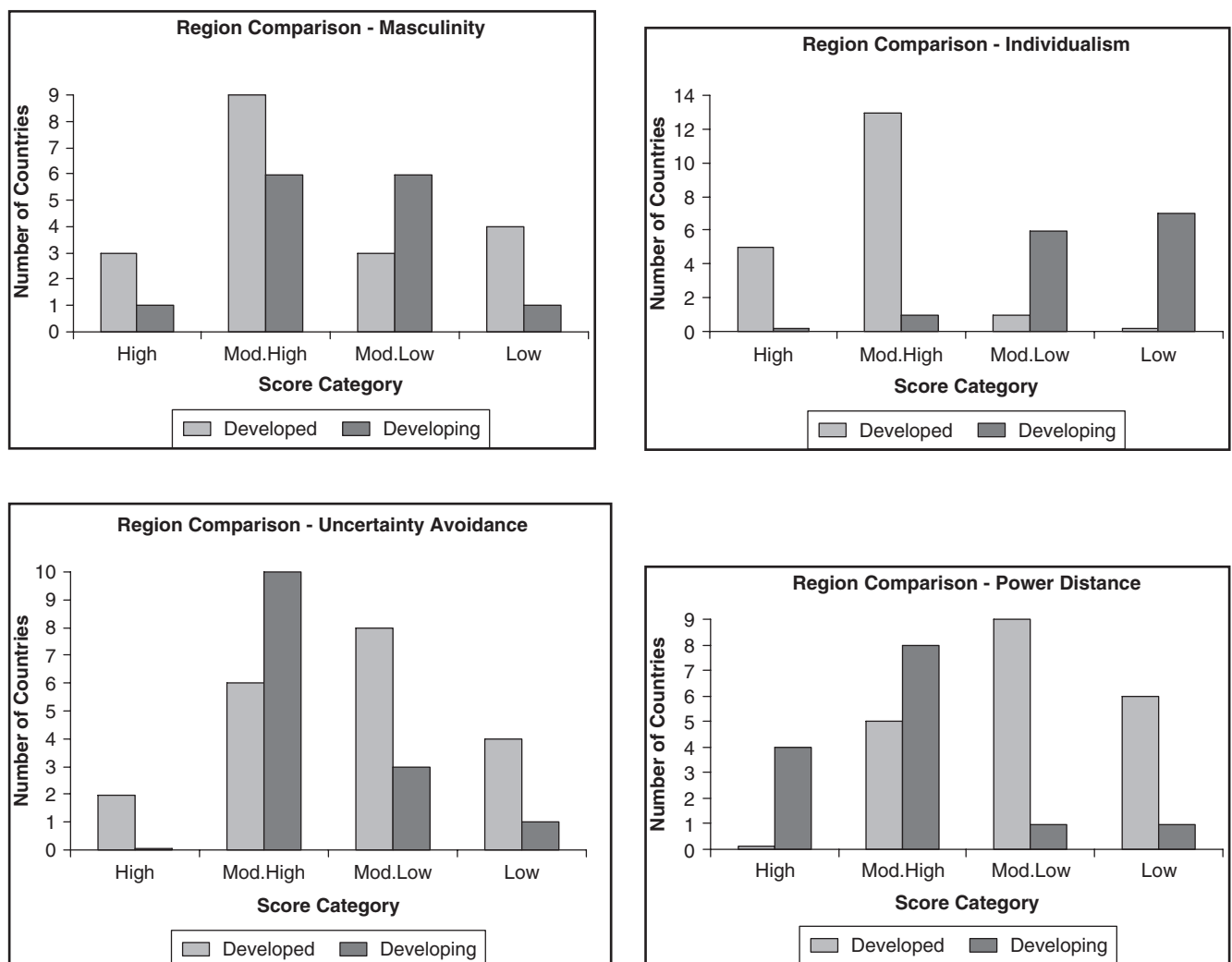


Figure 19.3 Comparison of Developed and Developing Countries on Cultural Values

is often a closer link between government and business, which is considered appropriate, and the state is seen as the agent of economic change. Governments in developing countries often accumulate capital from international agencies and use this wealth for economic purposes.

There is an interesting link between economic freedom and income levels as well. Gwartney and Lawson (2002) of the Fraser Institute described economic freedom as encompassing personal choice, voluntary exchange, freedom to compete, and protection of person and property. The Fraser Institute reported that, as incomes increase, economic freedom also increases. Consequently, the developing countries have scores that are lower on economic freedom than the more developed countries.

Most of the countries currently listed as developing were, until quite recently (the 1950s), colonies of the European powers. This colonial heritage is likely to influence their business practices in a number of ways:

- Colonies were traditionally producers for markets in the European countries. This means that for many colonies, the concept of marketing is largely ignored, with a focus on production instead.
- Colonies were in subordinate positions and instructed by the “colonial masters” (as the European powers were called) in matters of government, economics, and business. Decisions were made elsewhere, and in many of these countries, there is still a tendency to look to others for decisions.
- A top down decision-making style was enforced and accepted. Decisions were made at the master level, with little input from the local level, and these decisions were not questioned. This remains in the management style of many companies in developing countries.

It is difficult to be certain of the influence of colonization in a postcolonial society, but one can be certain that there is an influence. Further, as countries move further from colonial times, we can expect their management practices and styles to change.

IMPLICATIONS FOR MANAGEMENT IN DEVELOPING COUNTRIES

There is relatively little research on management in developing countries. Thomas (1996) and Baruch (2001) commented that examinations of management have focused on locations in the industrialized world, particularly North America and Western Europe, resulting in management theories that are biased. In other words, management theories are based on the developed countries, and it is not clear which theories apply in developing countries and which do not. Because of this, it is very difficult to make statements about management in developing countries. The best approach then is to look at the factors that have been identified as defining developing countries and to make informed

judgments about how these are likely to affect management, necessarily using the lexicon and conceptual constructs of the available literature, which is based on management in the developed world.

It is important to remember that the group of developing countries is made up of very diverse countries—ranging from China and India to Samoa and St. Lucia and including Taiwan and Haiti—with many languages, religions, histories, and geographies, and representing all continents. This means that any discussion on managing in these countries as a group is necessarily limited, and must largely ignore the specifics of individual countries. There is some literature on specific developing countries, and readers with an interest in a specific country should seek out these studies. Unfortunately, this literature is often not available outside of the country of origin, and rarely are translations done so that access can be limited. In recent years, there has been a substantial interest in the People’s Republic of China and some research on management has been done comparing management in the People’s Republic of China to the United States and other developed countries. In India, there is a substantial body of indigenous management literature. The same is true of some Latin American, African, and middle-eastern countries. The so-called BRIC countries—Brazil, Russia, India, and China—are currently the focus of some interest.

MANAGEMENT AND CHARACTERISTICS OF DEVELOPING COUNTRIES

Management has traditionally been described in terms of a process and five activities that make up the management process—planning, organizing, staffing, leading, and controlling—are usually discussed as basics of management. These are often portrayed in texts as sequential and iterative. Management begins with planning which sets the strategies, objectives, and goals for an organization—planning drives the organization and other management activities are intended to help achieve plans. Planning is followed by organizing, which provides structure to ensure that plans can be realized. Organizing is followed by staffing, in which people are identified to carry out the necessary functions to achieve plans. Staffing is followed by leading, which ensures that staff behaves in desirable ways that lead to achieving plans. Leading is followed by controlling, an activity that is designed to measure progress toward plans and allow for corrective action.

This model of management will be used to discuss how the management process in developing countries may differ from that in the developed countries. First, however, it is important to look at the model itself and its western biases. The process in the model is based on a sequential, logical, rational set of discrete activities, which are typical of a western, developed country viewpoint. The model assumes control over the environment so that making plans,

designing structures, choosing people for specific jobs, and measuring outcomes are all reasonable activities.

Non-western countries often do not see the world in the same straight, sequenced pattern. Time in many non-western societies has been described as analog rather than digital and the context of communication is as important, or more important, than the content. A contrast of Saudi Arabian decision making with that of the United States talks of the Saudis circling while the Americans are linear. Many non-western countries believe more in the role of fate and do not assume that people have control over their environment.

These fundamental differences in worldview may mean that the very term management will mean something quite different in some developing countries, if it can be thought to exist at all. Nevertheless, the management model that is the norm in developed, western countries will be used for this discussion, because it will be familiar to most readers. Developing countries have generally been found to be somewhat more collective than developed countries, somewhat more accepting of power differentials, somewhat more averse to uncertainty, and more fatalistic. All of these attributes are likely to influence management and how the processes of management are carried out, as the following illustrates.

Planning

Collectivism suggests that planning will be generally be a group activity and the idea of consensus will be important. At the same time, acceptance of power differentials suggests that ultimately decisions will be made by those in positions of power, although input may be sought from subordinates. Preference for certainty/aversion to uncertainty adds to the likelihood that subordinates will look to their superiors for decisions because this eliminates a degree of risk. Preference for certainty may suggest a need for careful decision making, with contingency plans; however, this is not likely the case where the society is fatalistic. Fatalism implies an acceptance of the will of a supreme force or set of forces without question, and this may in turn make planning in detail seem contrary to this acceptance.

Organizing

Collectivism suggests that work will be organized on a group or team basis, with tasks to be accomplished by groups rather than by individuals. Acceptance of power differentials likely means that clear cut hierarchies will be established, with power residing at the top. Preference for certainty/aversion to uncertainty means that rules, policies, and procedures will be important and that employees want a clear idea of what is expected of them. Fatalism implies acceptance of what happens without question, and this is likely to reinforce the acceptance of decisions from the top and willingness to follow the rules imposed from the top without question.

Staffing

Collectivism suggests that staffing decisions will be made on the basis of people being able and willing to work together. This may mean people of similar backgrounds including the use of family members working together in groups (a practice that might be viewed negatively in North America and Europe). Acceptance of power differentials likely means that staffing decisions made by those in positions of power will be accepted and not questioned and those in power will make decisions about staff that reinforce their power. Factors such as ethnicity, religion, age, and gender that relate to power will be taken into account in staffing decisions. Preference for certainty/aversion to uncertainty reinforces acceptance of staffing decisions made by superiors as this is seen as providing security, and this is reinforced by fatalism, which encourages such acceptance, even where it may be unpleasant. In many developed countries “nepotism” or the favoring of one’s relatives in business dealings is seen as negative, in contrast, in developing countries, family members are trusted, and therefore to be favored.

Leading

Leadership that is collective, based on power, and providing certainty may best be described as paternal or benevolent autocracy. In other words, the leader is concerned with the good of the group, and both leader and followers believe that the leader knows best, therefore an autocratic style is expected and accepted. This style of leadership provides security because the leader’s power position is accepted by his (possibly her in unusual situations) subordinates. Fatalism supports this leadership style because the powerful leader cannot be wrong—bad decisions become “God’s will.”

Controlling

Controls in a collective society will be group rather than individual based—that is, goals will be set for groups and teams, output will be measured at the group level, quality will be a group responsibility, and so on. Controls will be determined by those in positions of power and they will control rewards and punishments that will be meted out in response to good performance or unacceptable performance or behavior. Rules, policies, and procedures that are clear will provide security and, thus, will be desired. At the same time, fatalism combined with acceptance of power differentials means that the superior may make exceptions to the rules, and this will be considered acceptable, even right.

The management style just described is one that in North America is often called “Theory X.” It is essentially top down, with management in tight control. The difference is that employees accept this style; therefore, it may work. In

addition, there is a certain implication that, while autocratic in nature, it is a benevolent autocracy. The leader is expected to look after subordinates (as a father is expected to look after the family) and in return for this, employees are loyal to the leader.

Having discussed these management processes and how culture might influence them, it is appropriate to question them more generally:

1. Is planning a necessary part of management? If events are predetermined, planning may at best be a waste of time, and at worst a questioning of a higher power.
2. Should firms be formally organized? If personal influence is important in day-to-day activities, it may not be appropriate to identify positions within the firm.
3. Can people be allocated to fill positions within the firm? If people prefer to work at tasks as they arise, it may not be helpful to allocate them to specific slots.
4. Does management actively seek to direct and motivate subordinates? If people believe they should work hard for the good of their group, it may be counterproductive to lead them actively.
5. If people accept responsibility it may not necessarily mean that they have committed to performance, as they react to a changing situation.
6. Are control systems necessary to achieve desired outputs? If employees are willing to act as instructed by their superiors, controls may be redundant.

It is important for managers in different cultures to be aware that their own assumptions may be questioned. This is particularly for managers from developed countries operating in developing ones and vice versa.

ETHICS AND CORPORATE SOCIAL RESPONSIBILITY IN THE CONTEXT OF DEVELOPMENT

A critical consideration for managers everywhere is that of ethics and corporate social responsibility. It may be particularly a concern in developing countries because what is considered ethical in a developed country may be considered unethical in a developing country and vice versa. For example, in the United States, lobbying is considered a normal activity—companies and industries send lobbyists to influence government representatives, asking these government representatives to make decisions that will positively affect the company or industry and offering political support in return. In other countries, this is considered unethical and the equivalent of bribing the government. Similarly, in North America, it is normal to tip restaurant waiters and taxi drivers, but people from many parts of

the world are mystified or even insulted by this practice because the waiters and taxi drivers are simply performing an expected service—doing their jobs. In parts of Africa, Asia, and Latin America, it is customary to tip customs officials, while North Americans see this as bribery, because it is intended to get preferential treatment.

Developing countries have often been portrayed as more corrupt than developed countries. That is, there is more need for unreported payments and gifts in business dealings. These payments may be to civil servants, government officials, or other businesses. Transparency International (2007) prepares an annual index of corruption across the world. The countries at the bottom of the list are all developing countries, and those at the top are developed countries. While this suggests that managers in developing countries may have to deal with issues of “extra payments,” it is worth noting that, often, managers from the developed countries make these payments and contribute to the continuation of the practice. The mismanagement of funds in Iraq by U.S. companies, and the scandals relating to Australian companies and the food-for-oil program in Iraq are two illustrations of the fact that corruption has to exist on both sides.

Other ethical issues that may arise in developing countries have to do with the laws in these countries or sometimes with the lack of laws and regulations. For example, child labor is still common in many parts of the developing world, slavery continues, harmful pesticides are allowed, environmental protection is lax, working conditions are poor, and so on. In some cases, a practice such as child labor, which is seen as unethical in a developed country, is necessary in a particular developing country for families to survive. In other situations such as killing elephants and poaching ivory, the practice may be considered unethical in the developing country, but the country, because it is poor, lacks the resources to police existing regulations.

THE NEW REALITY

On September 16, 2006, *The Economist* had a cover that proclaimed “Surprise! The power of the emerging world.” A special report titled “The New Titans” was headlined by the following: “China, India and other developing countries are set to give the world economy its biggest boost in the whole of history,” and it goes on to ask, “[W]hat will that mean for today’s rich countries?” (p. 3). As this chapter pointed out at the outset, the developing world includes most of the world’s population. Improvements in these economies, therefore, can have an enormous impact on the global economy. “The New Titans” article indicated that in 2005 the combined output of emerging (developing) economies reached a milestone of more than half of total world GDP (measured at purchasing power parity [PPP]). In addition, their share of world exports had increased to 43% from

20% in 1970, they consumed over half the world's energy, they accounted for four fifths of the growth in oil demand, and they hold over 70% of the world's foreign exchange reserves. A comparison on GDP percentage increases over a year earlier shows the emerging economies growing at a higher rate than the developed economies, and the gap widening.

This is all good news for the poorer people of the world, suggesting that the gap between the rich and the poor, identified at the beginning of this chapter, may now start to move in the opposite direction. As the people of the developing countries become better off and have greater access to the goods and services that are now common in the developed world, what will this mean for management? From a management research perspective, it is likely to mean that there will be more interest in these countries and their management. This chapter will likely need to be revised in a decade's time, it may have more literature to draw on, and there may be quite different views on developing countries at that time. Students concerned with management in developing countries should watch their progress with interest. It may be that the weight of China and India is such that these two countries need to be considered separately from the rest of the developing world.

Of particular interest today is the impact that the People's Republic of China will have on the world economy, as well as particular economies around the world. Cheap Chinese exports have been flooding around the world to the delight of consumers in both the developing and developed world but equally of concern to producers. Producers in developing countries may be particularly disadvantaged because they cannot compete with the artificially low wages maintained by the Chinese communist government. The growth in Chinese manufacturing and industry has been accompanied by a need for raw materials and resources and the People's Republic of China has moved globally to source this need. The Chinese have been investing around the world, including in Africa, the Caribbean, and Latin America to ensure access to the supplies that it needs for its own manufacturing. This is changing relationships around the world. The Development Gateway Foundation's Web site (2007), a Web site devoted to development issues, noted that the potential impact of China's rapid growth on the United States and European Union has been well documented but that less is known about its impact on the developing countries. An OECD working paper (No. 252) by Blazquez-Lidoy, Rodríguez, and Santisto (2006) concluded that Latin America will benefit most from China's expansion.

At the same time as China is expanding, India is as well, and it was announced in late 2006, that Wal-Mart, the American retailing giant, would open a chain of stores across India. This also changes world relationships. As China and India become more global and as companies like Wal-Mart open in more countries, the following question

arises: Will the countries of the world simply become more and more alike, as influences from one country or region spread across the world? The next section of this chapter addresses the issue of convergence and divergence.

CONVERGENCE OR DIVERGENCE?

The global business environment that is today's reality means that national economies are more closely linked than in the past. A variety of factors suggests that national cultures may become more similar because of globalization—these can be thought of as forces for convergence. For example,

- increased trade means that people around the world are exposed to products from other countries (many people point to the fact that people around the world wear basically the same jeans and t-shirts);
- increased foreign investment means that companies take their corporate cultures and practices into new locations and also learn from these new locations, taking aspects of culture and practice home (many people identify similarities in subsidiaries from Argentina to Zimbabwe);
- increased travel and communication for business and personal purposes means that people experience and learn about different behaviors and adopt and adapt these to suit their preferences (many people comment on the availability in every big city of restaurants serving foods from every corner of the world);
- increased regional and global trading agreements and organizations have as their mandate the standardization of trade arrangements across countries (many people decry the loss of specialized products because of these agreements);
- the advent of the internet and the consequent globalization of the media means that awareness of events around the world is the norm (many people listen to radio stations ranging from BBC to NPR and Aljezeerra on their computers); and
- shared global concerns such as global warming, which are not defined by national boundaries, require global responses and lead to shared values (solutions found in one location need to be shared by all).

All of these factors suggest that we are moving toward a global culture and greater global integration, and less importance for the nation state. In addition, as developing countries' economies grow and improve, we can expect that their citizens will want many of the consumer goods currently common in the developed world. At the same time, these countries may want a stronger voice for their nation states, and there are other forces leading to divergence. Listen to the news, and this becomes obvious. The differences also are greatest between developed and developing countries. Consider some of the following:

- Terrorist attacks around the world illustrate the vast differences that some people perceive between “us” and “them.”
- Religious differences in 2006 often pitted Christianity against Islam, Hinduism against Islam, Catholic against Protestant, Shia against Sunni, and so on.
- People are proud of their cultural uniqueness and seek to maintain their cultural values, sometimes trying to legislate these (e.g., the French language “police” responsible for maintaining the purity of French used in France).
- Jeans and t-shirts may be popular around the world, but equally, women wear the traditional middle-eastern veil in London, New York, and Toronto.
- Immigration has led to a mix of peoples around the world, but these immigrants often live in ethnic communities within cities and maintain their national and cultural characteristics within these communities.
- Extensive exposure to foreigners and foreign media can increase awareness of home values, which contrast to these and are seen as especially “good.”

There seems evidence, therefore, that there are still major differences to be found around the world and that cultural differences are likely to persist. This is likely to remain the case for developed/developing differences, simply because of the major economic gap that continues between countries.

CONCLUSION

This chapter has given the reader a broad overview of the situation that exists in developing countries, and has contrasted developing and developed countries. The differences between the countries have been used to discuss various aspects of management. The chapter began by looking at some recent developments in global business activities that show a changing business world from a developing country perspective. The chapter looked at definitions of development and reviewed how these have changed over time. It then considered population figures and the reality of the developing world, both positive and negative. The known characteristics of the developing world were discussed in terms of management implications, and specific cultural values were explored in terms of management processes and practices. Ethics and corporate social responsibility were discussed in terms of corruption and differing interpretations and expectations about what is ethical. The chapter concluded with a look at the new reality in developing countries, especially in light of developments in the People’s Republic of China and with a discussion of forces leading to convergence and divergence between developed and developing countries. Throughout, it was stressed that within the group of countries classified as developing, there are vast differences from country to country; therefore, it is simplistic to discuss “management

in developing countries”; and nevertheless, these countries share some characteristics and these can provide a basis to think about management issues. Readers are encouraged to explore the characteristics of a wide array of the developing countries to develop a better understanding of specific countries. In conclusion, readers are also reminded of the changing and dynamic nature of the business management environment—nowhere is this more than the case than in the context of the developing countries today.

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INTERNATIONALLY MANAGING IN THE FACE OF TERRORISM-INDUCED UNCERTAINTY

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Businesses can usually strike bargains based on financial calculations. War and terrorism create new uncertainties that confound ordinary calculations and may deter global commitments. (Samuelson, 2003, p. 41)

With the upsurge in organized, international terrorism, frameworks and tools are needed to help understand the dynamics of this phenomenon and how it affects management decision making in the 21st century. Knowledge of the new political economy, in which terrorism operates, and the manner in which space and time are experienced by managers, are vitally important, as is an understanding that the risks and uncertainties associated with terrorism are not one and the same. Risks can be calculated, whereas true uncertainty defies calculation and demands that managers make judgments. In our modern, networked, international economy, where the activities of firms are interconnected through business operations, orga-

nized international terrorism has taken on a new potency. In this chapter, these issues are presented as fundamentals that managers need be alerted of, as they confront this phenomenon and the added complexity it brings to modern, managerial decision making.

The airplane attacks in the United States on September 11, 2001, again highlighted that organized terrorism has internationalized. In the 9/11 attacks, over 3,000 citizens from 78 countries were lost, striking at financial and defense centers of the United States with strong and immediate negative effects on the outlook and attitudes of populations around the world. In March 2004, the Madrid train-station bombings, proclaimed as Spain's 9/11, saw some 190 deaths

and 1,400 persons wounded, again reinforcing the ubiquity of terrorism. More recently, in July 2005, London's public transport system was thrown into chaos, and 52 lives were lost when suicide bombers simultaneously exploded several bombs.

Directly and indirectly, most global economic activity was affected by the 9/11 U.S. terrorist attacks, notably evidenced by substantial declines in consumer demand, with the value of the stock markets worldwide falling substantially. The 9/11 attacks also led to measurable increases in military expenditures by the United States and other governments. While the world economy was already in a state of decline in September 2001, the overall impact of the 9/11 terrorist attacks was magnified by the context within which they occurred. Overall, organized, international terrorism impacts individual nations and the world economy in terms of loss of life and property, declines in consumer and producer confidence, declines in stock, financial and the all-important commodities markets and affects perceptions of uncertainty.

While scholars have produced considerable literature on terrorism, there does not yet exist an established, widely accepted body of theory on terrorism, nor is there a generally agreed-upon definition of what terrorism is. Research on this topic is noticeably absent in the core management and associated organization and international business literatures. Terrorism is investigated directly in only one publication in the Academy of Management's suite of journals: the *Academy of Management Review*, *Academy of Management Journal*, and *Academy of Management Executive*. Only eight articles have mentioned terrorism in the Academy of International Business' journal, *Journal of International Business Studies*. M. G. Harvey (1993) was the first to focus on the topic, reporting on the preparedness of U.S.-based MNCs for dealing with the terrorist threat. Most recently, Ghemawat (2003) suggested in his semiglobalization paper that global terrorism induces "skepticism rather than optimism about globalization" (p. 150). None of these investigations provides substantive conceptualization, theory development, or empirical research on the linkage between organized, international terrorism and business and its management.

In general, terrorism is the use of threat, force, or violence to attain political goals through fear, intimidation, or coercion, while international terrorism is terrorism involving citizens, or the territory of, more than one country. Organized terrorists direct their attacks against businesses far more than any other target. Terrorism by bombing is by far the most common type of attack, followed by armed attack, kidnapping, arson, and assault on victims who are mainly civilians. While the frequency of terrorist attacks has varied over time, the level of destructiveness of individual attacks has tended to increase in recent years. More ominously, terrorists today employ increasingly sophisticated and destructive methods and weaponry as the 9/11 attacks have revealed, which might suggest how general warfare could be conducted in the future. In locations where

the United States and a few other nations enjoy substantial military superiority, malcontents look increasingly to guerilla warfare and terrorism as the alternative to traditional combat. Moreover, the 9/11 attacks revealed how vulnerable a sophisticated, highly developed, and military-alert country such as the United States is, and other countries may be. These attacks were low-tech but high concept and reveal that even a small contingent of terrorists can wreak tremendous havoc, both directly and indirectly, over a relatively long time frame.

TERRORISM AND BUSINESS MANAGEMENT

Business is increasingly global, with about ten trillion U.S. dollars' worth of goods and services traded internationally in any given recent year. International business is particularly vulnerable to terrorism because terrorism is known to occur throughout the world and to hold ominous consequences especially for international supply chain and distribution activities, as well as demand for both industrial and consumer goods by buyers worldwide. The 9/11 terrorist attacks in the United States contributed to significant declines in consumption around the world and to the enactment of government policies and regulations that hinder the efficient operation of global transportation and logistical systems, one of the key contributors to our modern, internationalized economy, which has brought unsurpassed and prolonged periods of prosperity to most of the world.

All major participants in business activity are affected by organized, international terrorism such as the terrorists themselves, producers, buyers, consumers, and public agencies. Interestingly, while the property damage of the 9/11 attacks was less than that of Hurricane Andrew in Florida in 1992, the Northridge, California, earthquake in 1994, and Japan's Kobe earthquake in 1995, the psychological impact worldwide has been far more severe. While earthquakes and hurricanes, for example, are natural events for which people can prepare, organized, international terrorism is far less predictable, potentially more harmful, and strikes more deeply at the emotions of populations, thereby heightening feelings and perceptions of uncertainty. The mass psychological implications of terrorism have widespread effects on buyers' propensity to consume. Industrial demand derives from consumer demand, and retail consumers are typically susceptible to the psychological effects of terrorism. Producers' revenues are likely to contract in the wake of falling consumer demand, and producer expenses tend to increase due to various direct and indirect effects of terrorism. In the short term at least, shortages of key raw materials, parts, components, and supplies may occur to the extent that supply chains are interrupted following terrorist attacks. Producers incur unplanned expenses associated with increased insurance, advertising, and public relations activities, among others, as they attempt to plan for and control the damage of terrorist events.

In addition, public agencies such as government bodies, associations, international organizations, and other public entities typically impose new regulations and policies, intended to preemptively avert terrorism or manage its consequences. These additional regulations generally restrict companies that are in particularly susceptible industries (e.g., airlines, tourism) and those with long international supply chains, increasing transactions costs. Creeping security measures that governments impose tend to decrease the efficiency with which international value and supply chains function, and these measures have the ability to substantially increase business operating costs and insurance premiums and force firms to hold higher levels of inventory. In general, producers, buyers and consumers, and public agencies are all affected by, and will usually have to respond to, the actions of organized terrorism. That is, the indirect effects of terrorism can lead to the emergence of various types of market imperfections that increase the costs of performing business activities internationally.

The direct effects are the most obvious impact that a terrorist event has on a firm. The destruction of the World Trade Center had a devastating impact on firms such as Cantor Fitzgerald, which had staff in offices within the building, or other multinational firms, such as Westfield Holdings, which owned part of the World Trade Center through Westfield America. Other firms that had insurance exposure to the 9/11 attacks were also directly affected by the event. For example, when stock markets simply suspected that QBE insurance, an Australian insurer, had exposure to the World Trade Center attack, its share price fell by 70% on the presumption of crippling liabilities. Even though many firms were directly and in several cases, such as Cantor Fitzgerald, tragically impacted by the World Trade Center attack, they are not a material part of the U.S. economy and are an even smaller part of the global economy. By extension, the chances of a single firm being subjected to a terrorist attack are in fact very small. The implications are that the effects of terrorism cannot be understood by gauging the likelihood and impact of a direct attack on a particular firm. Firms are more likely to experience the effects of terrorism through links to buyers and suppliers of goods and services that are themselves affected by terrorism.

INDIRECT EFFECTS ON THE FIRM THROUGH ITS INTERFIRM ARRANGEMENTS

Dunning (1995) has previously suggested that we have moved into an era of alliance capitalism with greater levels of interdependence between firms. Moreover, Langlois (2003) has proposed that the large vertically integrated firms described by Chandler (1962), which dominated the 20th-century industrial landscape, were a temporary historical episode in a larger Smithian process of the division of labor. Accordingly, as markets have become thicker (more

of them) and more efficient, the hierarchical, vertically integrated mode of coordination becomes less prevalent. Furthermore, changes in technology that better coordinate production between firms and lower the minimum efficient scales of production, have made the use of the market a more favored mechanism to coordinate production in both domestic and international situations than was the case some decades ago.

If it is accepted that the increasing thickness of markets and technology enabling rapid responses to changes in the market are part of our business landscape, it could also be argued that the market could be an effective mechanism for responding to the threat of terrorism. If one supplier of an input into another firm's production process is affected by an attack, then other firms can step in to fill the resulting demand. Consequently, it is argued that the impact of terrorism on a firm's buyers and suppliers is neither the most pervasive, nor the most devastating outcome of terrorist activity, because it is not the impact upon immediate buyers and suppliers in the network that creates the risk and uncertainty for firms. The most substantial effects of terrorism arise from the nature of the interconnected and networked global economy. This interconnectedness takes on both tangible and intangible forms.

We need a conceptual understanding of how producing firms in our networked international economy (i.e., international firms involved in production across borders) might best deal with the threat of organized, international terrorism. The principles for assisting firms in their response to the threat of international terrorism cannot be developed without an appreciation of the wider economic environment in which these firms now operate. In this section, we discuss two interrelated phenomena. First, we examine the debate over the definition and extent of globalization, and second, we introduce the nature of the connectedness created by globalizing forces. While there is disagreement over the speed and pattern of the globalization process, the increasing degree of interconnectedness between geographically dispersed actors is key to understanding the indirect effects of organized, international terrorism.

Globalization is a broadly defined term, used to describe increases in flows of trade, capital movements, investments, and people across borders. Some scholars who have examined globalization from a quantitative perspective have concluded that the assumption of the hyperglobalization school, which sees the pattern of globalization as exponential, unhindered, and geographically homogeneous is misleading (Perraton, Goldblatt, Held, & McGrew, 1997). Indeed, there is evidence that the movement of trade, capital, and people is a geographically heterogeneous and historically episodic process that can be interpreted to support regionalization rather than globalization (Rugman, 2001). Irrespective of this controversy, globalization is driven by economic factors that are not uniform across economic space. The patterning of globalization is a complex and subtle process that is neither conveyed in the borderless world thesis, nor in the opposing view of self-contained national economies

or discrete regions. Perraton et al. (1997), state of this complexity of globalization that “the world does fall short of perfect globalized markets, but this misses the significance of global processes. Rather than rising regional activity being contradictory to globalization, as the skeptics claim, it appears to be part of a more general rise in international economic activity” (p. 274).

Thematic throughout the globalization literature is the increasing degree of cross-border connectedness between people, organizations, and other entities. Connections take on a number of different forms. Basic among these are two-way communications that occur directly with face-to-face contacts, or indirectly via telephone, fax, and e-mail, such as with trade in goods and services. In addition, one-way monological communication occurs via the mass media. These connections are not globally homogeneous because the pattern of globalization is not homogeneous. However, recent developments in understanding the dynamics of networks demonstrate that the sheer number of links is not the prime determinant of connectedness.

Complexity theory, previously applied to the behavior of nonlinear and networked iterative loops, which produce order and adaptation in systems (Kauffman, 1996), provides insight into the nature of this connectedness. Prominent mostly in the physical and biological sciences, complexity theory has received some attention as a lens for investigating economic and organizational systems (Arrow, Anderson, & Pines, 1988). Because complexity theory is a broad literature, a focus on the complex networks field that uses a network perspective to examine the way that dynamic systems evolve and interact is appropriate. An area of current, intense interest in the complex networks field is the “small-world phenomenon” that formally examines the anecdotal notion of the so-called six degrees of separation between any and all persons, anywhere in the world (Watts, 1999). Small worlds have been shown to be a ubiquitous property of networks (Watts, 1999).

For the purposes of our argument, two features of small-world networks are most salient for understanding the effects of international terrorism. One of these is the observation that clustering is a common property of systems that has been identified in a variety of network structures, such as the World Wide Web, ecosystems, and molecules within cells (Barabasi, 2002). The other feature of small-world networks is that clustering does not diminish the small-world phenomenon of connectedness between entities. Significantly, the imposition of a relatively small number of random links between nodes in the clustered network dramatically reduces the separation between all nodes on the network (Watts & Strogatz, 1998). For example, assume an artificially ordered network of 6 billion people (the world’s population) arranged into clusters of 50 directly associated neighbors. If each of these clusters is linked into a network, so that the clusters form the perimeter of a circle, then the number of degrees of separation in the population of 6 billion is about 60 million. However, if a small fraction of random links between members of these different clusters is added to the network,

the number of degrees of separation decreases markedly. If two members out of every 10,000 of a population have links beyond their clusters, the number of degrees of separation collapses from 60 million to about eight, whereupon the network becomes a “small world” (Buchanan, 2002).

In the study of the geography of globalization, this has profound meaning because the valid observation of regionalization does not necessarily disprove the thesis of greater interconnectedness on a global scale. While international economic activity is clustered into regional networks, these clusters are not independent from each other. In fact, a recent study of the world trade web indicates that the pattern of trade between nations can be described as a complex network, importantly including the features of clustering, evidenced as regionalization, and the “small world” property of globalizing linkages (Serrano & Boguna, 2003). Kastle, Steen, and Liesch (2006) applied complex systems network analysis to a purposefully compiled set of worldwide trade-flow data, assembled from 1938 through 2003, and produced interesting findings, which contributed to the so-called strong globalization hypothesis through a comparison of various features of globalization and the evolving nature of the trade network over time. While this study has shown that the world, as represented by trade flows between countries, is statistically no more interconnected in the 21st century than it was previously, regional interconnectedness has increased. Importantly, flow through this world trade network (the ability of the network to transmit goods and ideas) has improved significantly over time. This very connectedness, particularly trade flows through the system, creates a special vulnerability to terrorism because it allows for the impact of an individual attack to reverberate through indirect externalities, thereby magnifying the effect of the initial incident. Firms may indeed be clustered in industries or regions, but a smaller number of links between clusters dramatically reduces the degrees of separation between firms in distant clusters, thereby dispersing externality effects.

There is an additional feature of complex networks, which is fundamental to the investigation of the interaction between globalization and international terrorism. Modeling the effect of attacks on these complex networks has shown that they are surprisingly resilient to random failures and, importantly, highly susceptible to informed and organized attack (Barabasi & Bonabeau, 2003). Within complex networks, most nodes have few connections and if many of these nodes are removed, the network continues to function normally. For example, up to 80% of randomly selected Internet routers can fail without causing the collapse of the World Wide Web because there will still be a path between any two nodes (Barabasi & Bonabeau, 2003). However, some nodes are densely linked to other parts of the network and thus become hubs. In contrast, the simultaneous elimination of 5% to 15% of all hubs has been shown to destroy the functioning of the system (Barabasi & Bonabeau, 2003). While firms may not be aware of these network dynamics, we conjecture that the targeting of hub

nodes within industries or international trade networks by terrorists could have dire consequences for other firms in the network. Clearly, further research needs to be undertaken to understand the susceptibility of industrial networks to attack, as little is known about the network properties of international trade and investment network economies.

SYSTEMIC EFFECTS RESULTING FROM PERCEPTIONS OF UNCERTAINTY

Going beyond the tangible interconnections between firms and consumers presents an attractive and possibly crucial research agenda for understanding the implications of organized, international terrorism for business and its management. Even though it is unlikely that an individual firm or consumer will be directly affected by terrorism, it is the perceived threat and consequences that give terrorism its potency. Psychology may assist in explaining this phenomenon through an understanding of reactions to risk and threats. For example, prospect theory suggests that decision makers are likely to put more emphasis on probable risks than on definite risk (Mukherji & Wright, 2002). Such theories offer some insight into managerial perceptions of terrorist threats, but they cannot explain why the indirect effects of a major terrorist event are now so geographically pervasive and rapid. While the attacks on the World Trade Center caused a significant decrease in business and consumer confidence in the United States, despite the localized nature of the attack a significant fall in consumer confidence was also reported in Canada, France, Italy, Japan, the United Kingdom, and elsewhere. Predictions made in early 2002 suggested that real gross domestic product (GDP) would diminish not only in the United States but also in Europe. Developing nations, dependent upon these countries for trade and investment, were also adversely affected. The consequences for them were especially dire, since in the developing world a decline in GDP translates into loss of life for people who are already living on the margins of survival.

In many respects, the world is now a smaller place because of the perceived closeness of everything. This is also a consequence of the speed at which events happen and the rapidity of their flow-on effects. The phenomenon of the compression of distance and time makes intuitive sense and is also a central consequence of the forces of globalization, but the management literature has yet to give this any serious attention. This could be due to the absence of theory in management that can describe the global political economy of the early 21st century and the consequence of this landscape for managerial perceptions of terrorism and its uncertainty. In the following section, we discuss these changes in global political economy by drawing primarily upon the work of D. Harvey (1989) who describes the transition from the Fordist postwar era to a different environment, characterized by change and flexibility.

THE CHANGING INTERNATIONAL POLITICAL ECONOMY

If the problems of the Fordist production regime prior to 1973 could be summarized in one word, then that word would be rigidity (D. Harvey, 1989). This includes the rigidity of fixed investments in mass-production systems, which inhibited necessary innovation in product design and manufacturing processes. Prior to the 1970s, it was presumed that the highly diversified conglomerate form would continue to expand, and indeed, this would be a reasonable prediction, given that in 1958 just 38 of the 100 largest U.S. industrial corporations were diversified, compared with 60 in 1960 and 76 in 1970 (Guillen, 1994). Whilst the diversified conglomerate enabled firms to chase developing markets, in order to sustain their own growth, the result was the increasing appearance of labyrinthine firms, which could no longer be governed effectively by senior management.

The rigidity of production was based upon the existence of stable and continuous growth in consumer markets. Further rigidities existed in the labor markets, labor allocation, and in labor contracts, with attempts to overcome these rigidities resulting in the strike waves of the 1968–1972 period. The rigidities of state commitments to entitlements, such as pensions and social security, became more intense as corporate profitability declined and these commitments prevented a fiscal response to the looming crisis. Thus, the only flexible tool to postpone the crisis was monetary policy, which eventually stimulated an inflationary wave that was to end the postwar boom with the creation of the deep 1973 global recession (D. Harvey, 1989).

The 1970s and 1980s became a period of dramatic economic restructuring and both social and political readjustment. This readjustment, unlike Fordism, is characterized by flexibility and is termed by D. Harvey (1989) as flexible accumulation. This mode of growth relies upon flexible labor processes, labor markets, products, and consumption patterns. Manufacturing became more focused on economies-of-scope than on economies-of-scale, with the Fordist tendency toward mass production countered by an increasing capacity to produce a variety of goods cheaply in small batches (Castells, 1998). This flexibility extended to product, process, and organizational innovation and reduced the turnover time in both production and consumption. The standard half-life of a Fordist product was typically 5 to 7 years, while the current half-life of a personal computer may be less than a year (D. Harvey, 1989).

Flexible accumulation may represent, at least in the medium term, a sustainable mode of capital accumulation, by circumventing an accumulation crisis.

To understand why flexible accumulation may achieve this, it is necessary to understand the reasoning behind different mechanisms for surmounting accumulation crises. D. Harvey (1989) suggests that overaccumulation crises may be averted in a number of ways. The first approach is the devaluation of commodities, productive capacity, money,

or value. Put simply, devaluation means the writing down of the value of capital equipment, the cut-rate disposal of goods, or the inflationary erosion of money power. For example, World War II saw the massive write-off of both human and material capital. The second approach is the use of macroeconomic control through the institutionalization of some system of regulation, while the third involves the absorption of overaccumulation through temporal or spatial displacement.

While macroeconomic controls underpinned the Fordist-Keynesian era, D. Harvey (1989) argues that flexible accumulation is more reliant upon the absorption of accumulation through temporal or spatial displacement of capital, or through a combination of both. Temporal displacement of capital entails a switch from using resources to address current needs, to exploring future uses. Excess capital can be absorbed by long-term investments in tangible and intangible resources. On the other hand, spatial displacement of capital results in geographical expansion and the relocation of capital to new uses. D. Harvey (1999) importantly notes that capital should be defined as a process, rather than a thing. Capital must assume the forms of money (exchange value) and commodities (use-values) at different moments, but capital can also be formed by converting money and use-values, putting them into circulation and producing surplus value (D. Harvey, 1999).

TIME AND SPACE

A significant outcome of this regime of accumulation is what D. Harvey (1989) refers to as the annihilation of space through time (Hassard, 2001). In the shift from Fordism to flexible accumulation (post-Fordism), time and space are represented in new ways. Flexibility, instantaneous mobility, and change create a time-space compression of physical and human processes and experiences (Urry, 1996). While the transition to flexible accumulation as a means for underpinning economic growth has produced rewards for advanced economies that have largely justified the pain of adjustment and deregulation during the 1970s and 1980s (Yergin & Stanislaw, 1998), another outcome of this change has been the way that consumers, investors, and managers perceive the world—in a very real sense, the world has become a smaller place (Urry, 1996). In the United States, Denmark, and the United Kingdom, for example, South African wine is available at the local supermarket; reports from investment funds announce good returns that have arisen from an astute investment in India; and cable television provides images of wars on the other side of the globe, with the same detail as a news story from a nearby township.

Time is also experienced differently. The rates of change in lifestyle, product innovation, and competition, mean that time is perceived to move faster. A significant event that took place 3 years ago will often seem as distant as if it had

occurred 30 years ago. The future seems to be compressed, particularly in industries that endeavor to produce superior long-term returns to shareholders in such a difficult and changing environment. Time horizons for decision making have shrunk and investors increasingly demand immediate returns on their invested capital. In major international financial markets, decision time frames have shrunk to a matter of minutes, whilst contracts are increasingly temporary, due to a shared culture of industrial short termism (Hassard, 2001). The result of these shared perceptions is a paradigm of expectations (or a growth regime), underpinned by a reconceptualization of space and time (D. Harvey, 1999).

Another consequence of this growth regime is what Lash and Urry (1994, p. 56) call the subjectivization of space and time, arising from the spatial and temporal compression that is part of flexible accumulation. This process is especially carried out through the transformation of communications, information, and transport, where shrinking time frames for activities also compress the dimension of space (Lash & Urry, 1994; Hassard, 2001). The significance of the subjectivization of these fundamental dimensions is that it contributes to the general subjectivization of organization itself (Hassard, 2001). With respect to the strategic use of markets, as opposed to hierarchies, in production, Lash and Urry (1994) identify distinct changes in the experience of time and space.

The shift from early modern objective space, rigidly fixed by hierarchies, to the more subjective, flexible space is also instantiated in the transformation of the firm in vertically disintegrated production systems. The context of this is the more flexible and subjectively cast space of transaction-rich market networks of postorganized capitalist agglomerations. (p. 56)

Bringing this discussion back to the effects of terrorism upon firms, it becomes apparent that the post-Fordist political economy is far more vulnerable to terrorism now than it was previously. One reason for this susceptibility is derived from the disintegrated production systems of modern business and the consequent interdependency between firms. However, an equally important reason for the susceptibility to terrorism of firms in the present global economy is the compression of time and space and the way that this compression creates a perceived threat, as well as the consequent uncertainties for international trade and investment. Because of the change in the key dimensions of space and time, terrorist threats not only seem closer to a firm's activities but also impinge upon management's analysis of the future. Lash and Urry's (1994) description of this time-space compression and its impact on uncertainty appears to be almost prophetic.

Events often of an appallingly tragic character are dramatically brought into people's everyday experience. There is thus a literal time-space compression as this collage of disconnected stories intrudes and shapes everyday life. And

instantaneously people are “transported” from one tragedy to another in ways that seem out of control. This then appears to be a world full of risks and where there is little likelihood of even understanding the temporally organized processes which culminate in the newsworthy tragedies that are routinely represented every day. (p. 244)

However, this perceived uncertainty is accompanied by another layer of uncertainty, which involves managerial attempts to respond to other parties’ reactions to these events. The real difficulty arises with the creation of a “circuit” of uncertainty, where firms must estimate and preempt the reactions of other stakeholders to such shocks, while these stakeholders themselves are attempting to react to their own stakeholders. The application of complexity theory may help in the understanding of these interactions where differing cognitive schemata exist within actors who are affected by a systemic terrorist-induced shock (Anderson, 1999).

MANAGING IN A TERRORISM-INDUCED UNCERTAIN ENVIRONMENT

International terrorist incidents can be considered in this framework as incidents that are accentuated in our modern, globalizing international economy by the perceived compression of geographic space through the heightened speed of information transmission and general economic exchange processes. This compression of space is lubricated by modern information and communication technologies. Such perceptions inveigle managers to recalculate their international trade and investment decisions as this perceived heightened uncertainty can alter assessments of business opportunities, subject to managers’ changed understandings of risk-return possibilities. These heightened uncertainties impact international business decisions by altering perceptions of expected returns and the levels of risk, not only in those locations traditionally assessed as being more susceptible to terrorist activity, but also more generally.

In a conceptualization of varied firm preferences and capabilities, and modeling a firm’s set of potential business opportunities through identifying attractive and attainable opportunities, Liesch, Steen, Knight, and Czinkota (2006) have theorized that the effect of escalating, organized, international terrorism will be to eliminate potentially attractive business ventures with a high perceived risk from the firm’s otherwise attractive internationalization opportunities set. Further, the higher perceived risk relative to expected return, dependent upon escalating international terrorism, can be overestimated by management because of the systemic uncertainty created by perceptions based upon the compression of space through time. Worthwhile but nonetheless risky business ventures can be forgone in these contexts, and this is likely to impact differentially across the globe, often to the detriment of development opportunities in countries possibly needing these most.

While the potency of organized international terrorism has been accentuated in our modern international political economy through the more highly developed and sophisticated interconnectedness that our networked system of internationalized sourcing, production, and distribution has spawned, this same interconnectedness may provide a partial solution for managers who strategize for the possible eventuality of a terrorism incident interrupting their international business activities. As Sanchez (2003) has speculated, managers of firms in some industries where markets are thicker may be able to forestall these adverse interruptions by investing in flexible assets and through internalizing this flexibility. However, where markets are thinner and where information asymmetries are prevalent, managers may not be able to retreat to these sources of flexibility.

Management research into these, and other as yet uncovered, aspects of organized international terrorism on the behaviors and decision-making characteristics of business managers has been constrained by a basic fundamental of terrorism and its impacts: what is risky and what is uncertain in the context of terrorism and in accommodating terrorism in a firm’s strategic mind-set? While it may be possible, but nonetheless problematic, for some firms to estimate the risk of a terrorist attack to the local part of their network, it becomes far more difficult to estimate the probability of an attack on a more distant part of the network. More so, due to a lack of knowledge about the extent of connections within a system, it is even more problematic to estimate the effect of that attack upon the other physically distant, but nonetheless connected, parts of the network. Managers, in these contexts, have to readjust from managing calculable risk to taking decisions under conditions of true uncertainty. Irrespective of whether the world beyond the firm might be an extensive and intricate industrial network, in a typical Williamsonian world, it is nonetheless fixed and ultimately knowable (Slater & Spencer, 2000).

This approach to the analysis of uncertainty as a form of bounded rationality, which is constrained only by the limited capacities of the human mind to make calculations, provides a very limited interpretation of Knightian uncertainty (Slater & Spencer, 2000). The modern, networked international business systems are complex systems, and complex systems have the potential to produce unpredictable (unable to be calculated) future outcomes. In these systems that characterize the world of complex industrial networks in which organized, international terrorism has found its potency, “the past does not provide a guide to the course of future events, (and) agents are truly uncertain as there currently does not exist information that will help them discover the future. Decisions have to be made and choice is genuine” (Dunn, 2000, p. 427). This is where managerial judgment is called upon.

Policymakers around the world have increasingly come to recognize that it is very difficult to isolate domestic economic activity from international terrorist events. Decisions that once were clearly in the domestic purview only, have

now become subject to revision by terrorism repercussions from abroad. Domestic policy measures may be counteracted or possibly nulled by terrorism activities. Policy-makers also are coming to the recognition that there are Janus-like repercussions from the frailty of corporate and human memories. Over time, impressions shift. During the days following a terrorist event, there is typically the feeling of “but for some good fortune, it could have been me.” However, eventually, this feeling may change to “this was an aberration and cannot happen to me.” While such a shift is instrumental to restore human confidence and encourage the resumption of “normal” activities, it is also likely to lead to a widespread underestimation of the likelihood of future exposures to new risks and uncertainties associated with terrorism (Greenberg, 2005) and therefore, to insufficient policy measures.

Hence, policy actions are increasingly limited in their effectiveness, longevity, and public support. In light of organized, international terrorism, policymakers therefore find themselves with increasing responsibilities, yet with fewer and less effective tools to carry out these responsibilities. In many instances, the long-term repercussions are also difficult to ascertain, which often leads to unintended consequences. For example, new visa security rules have dissuaded a large number of international travelers from visiting the United States. The tighter restrictions have also reduced sharply the international flow of students and faculty and thus caused major problems in the U.S. higher education sector, while serving as an engine for growth for universities in other nations (Czinkota, 2005). As more components of domestic economies become vulnerable to organized, international terrorism, these parts are becoming less controllable. Terrorism has changed many previously held notions about nation-state sovereignty. On the policy side, ultimately, the greatest threat may be the fear that organized, international terrorism incites as it may lead to unplanned, hasty, and not fully understood policy measures. As earlier in history, one key dimension for public policy to fear is fear itself—unreasoning, unjustified terror, which paralyzes needed efforts (Roosevelt, 1938). This same interdependence that has returned the affluence much of the world has realized over the past decades has also left that world more vulnerable.

CONCLUDING REMARKS

In setting out the international landscape in which the now pervasive effect of organized terrorism has found application, we have drawn upon literature that examines the political economy of the late 20th century. In particular, we suggest that globalization and the process of flexible capital accumulation have affected the way in which geographic space and time are experienced. Geographic space has become compressed so much so that there is a closer interconnectedness between virtually every facet of economic activity today than was the case only a few decades ago. Aligned

with this so-called compression of space is the compression of time. The future becomes more immediate as strategies and investments demand faster decisions with uncertain outcomes despite the application of planning and forecasting. In this environment, organized, international terrorism takes on unprecedented potency. This is not a consequence of the availability of military technology and more adept planning, but rather it is a result of the way in which the immediacy of these events is felt around the world, and the uncertainty that this brings to decision makers and others in the population more generally. It is a paradox in that the changes in the international political economy that have been contrived to create the international economic conditions that have sustained considerable growth in recent decades have also spawned the conditions that accentuate the impact of globalized, international terrorism.

D. Harvey's (1989) analysis of these changes in the 20th century political economy of our world provide an astute understanding of the conditions that have enabled modern organized terrorism to have the effect of inducing systemic uncertainty into the internationalized business environment, which demands more of managers than mere calculation—it demands of managers considered judgment. As introduced at the commencement of this chapter, “Businesses can usually strike bargains based on financial calculations. War and terrorism create new uncertainties that confound ordinary calculations and may deter global commitments” (Samuelson, 2003, p. 41). In a world increasingly affected by organized, international terrorism, it remains that managers must grapple with the most difficult of all variables they confront in their decision making namely uncertainty, as it is uncertainty that organized, international terrorism relies upon for its potency.

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HRM BEST PRACTICES AND TRANSFERS TO THE ASIA-PACIFIC REGION

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Approaching the second decade of the 21st century provides a fresh opportunity to think about kinds of possible management. In this regard, the area of human resource management (HRM) has become even more important to business, policymaking, and nations, including in the economically dynamic Asia-Pacific region. Most of the Asian economies had rapid growth rates for the past two to three decades, although uneven from year to year, and were then hit by the 1997 Asian Financial Crisis. Interestingly, now the very same HRM practices formerly seen as paragons (and taken as “best practices” by some), partly responsible for such success and emulated and exported around the world (e.g., via “Japanization”), have become seen by some as problematic. In such a milieu, some Asian companies began looking to other countries for exemplars of HRM to import. Such issues raise important questions: Are there any HRM best practices? Can they be transferred? The search for best practice in comparative management research relates to the debate on convergence toward common practices that apply to all countries versus continuing or even growing divergence practices.

Many Asian economies do share common features, for example, fast economic growth, social development, surge in foreign direct investment (FDI), multinational companies (MNCs), and so forth. These factors can provide a strong momentum to practice transference to Asia. Despite

common features across the region, however, their specific institutional forms vary from one country to another (Hamilton, 1995) and act as serious constraints on transfer and, hence, convergence and promote continuing distinctiveness or even increasing divergence. Besides, since the transfer of practices occurs in a multifaceted context (between headquarters and overseas subsidiaries; Briscoe, 1995; Dowling, Schuler, & Welch, 1994) and at different stages (from preinstitutionalization to full implementation; Tolbert & Zucker 1996), the issue of transferability becomes more about “degree,” less about “all or nothing,” and more about “what” practices (Pudelko, 2005) and to what extent.

The aim of this chapter is to examine if there are best practices in HRM that can be transferable to Asia and whether this indicates convergence in HRM. Key HRM practices and policies of employment, rewards, and development will be used to examine these issues. The structure of the rest of the chapter follows. The next section introduces the theoretical debates associated with the possible reasons for transfer, what has been transferred, and how it has happened. The chapter then provides methods to examine the transfer issue and a basis for comparison across countries, along with some general applications and comparisons. Finally, the chapter draws together the propositions and outlines some possible future directions.

THEORY

Classical management thought and more recent variants assume that a set of “best” management practices, as in HRM, can be valid in all circumstances and help organizations perform better and obtain sustainable competitive advantage (Becker & Gerhart, 1996; Huselid, 1995; Lado & Wilson, 1994).

What Are “Best Practices”?

This idea can be traced back for some considerable time. For instance, Taylor’s (1911) earlier “scientific management” implied that there was “one best way” of managing. We can recall, as do Boxall and Purcell (2003), that studies of individual best practices within the major HR categories of selection, training, and appraisal have a very long tradi-

Table 21.1 Selective Research on Best HRM Practices by Author

<i>Author</i>	<i>Sample</i>	<i>Suggested Best Practices</i>
Michie and Sheenhan, 2005	362 manufacturing and service companies in U.K.	<ul style="list-style-type: none"> • Sophisticated recruitment and selection • Internal career opportunities • Provision of formal training • Performance appraisal • Performance-based pay • Having employee voice and consultation
Pudelko, 2005	232 managers from U.S.A., Japan, and Germany	<ul style="list-style-type: none"> • Selection based on performance and expertise • Training focusing on specific knowledge • Employee assessment based on individual achievements • Performance-based pay
Thompson and Heron, 2005	78 establishments in aerospace sector in U.S.A.	<ul style="list-style-type: none"> • Sophisticated recruitment • Formal induction program, training, and development • Cascading information • Performance feedback • Performance-based rewards
González and Tacorate, 2004	375 companies in Spain	<ul style="list-style-type: none"> • Rigorous selection • Extensive training • Incentive and performance pay • Formal performance appraisal • Team-based decision making
Rowley, Benson, and Warner, 2004	Companies in China, Japan, and Korea	<ul style="list-style-type: none"> • Flexible resourcing • Employee development • Performance-based rewards • Enterprise-focused employee relations
Martel, 2003	25 companies in Asia, Europe, and U.S.A.	<ul style="list-style-type: none"> • Recruitment and hiring • Compensation and benefits • Work environment • Training and education • Employee participation • Recognition and rewards • Performance management and counseling
Takeuchi, Wakabayashi, and Chen, 2003	Japanese affiliates operating in China (229) and Taiwan (57)	<ul style="list-style-type: none"> • Retention through in-company welfare • Long-term commitment • Emphasis on skill development • Team-based problem solving practices
Björkman and Xiucheng, 2002	62 Chinese-Western manufacturing companies	<ul style="list-style-type: none"> • Performance-based rewards • Individual performance appraisal
Snell, Lepak, Dean, and Youndt, 2000	74 manufacturing plants in U.S.A.	<ul style="list-style-type: none"> • Selection for technical and problem-solving skills • Training for technical and problem-solving skills

tion, such as when much effort was put into improving selection practices for officers and training for production workers during both World Wars. In the 1960s, best practice would have been taken as those associated with an American model (Kerr, Dunlop, Harbison, & Meyers, 1962) and in the 1980s, a Japanese one (Oliver & Wilkinson, 1992). Such universalistic views continued to appear and returned in various forms, as belief held that practices could be applicable across countries. Thus, “in best practice thinking, a universal prescription is preferred” (Boxall & Purcell, 2003, p. 61).

One strand in the area is the development of lists of best practices. Among the most famous are those of Pfeffer (1994, 1998), whose list of 16 (of relevance here included employment security, selectivity in selection, promotion from within, high pay, incentive pay, wage compression, and training and skill development), later narrowed to seven (of relevance here were employment security, selective and sophisticated hiring, high compensation contingent on performance, extensive training and development, reduction of status differentials, and sharing information self-managed teams/teamworking; see overviews of other lists in Boxall & Purcell, 2003; Redman & Wilkinson, 2006). Some take a broad definition that best practices are those that can add value to the business. Others are more specific and pinpoint certain practices in particular situations. For others, they are those present in successful and/or high-profile companies. Indeed, research on best practices including collective issues of work organization and employee voice is rare (Boxall & Purcell, 2003).

Recent studies (Tables 21.1 sorted by author and 21.2 by practice) typically include comprehensive employee recruitment procedures, incentive compensation, performance management systems, extensive employee training, and so forth.

Some unresolved issues and questions muddy what at first sight seems simple and clear. The whole notion of best practices raises several questions (Bae & Rowley, 2001; Thang, Rowley, Troung, & Warner, 2007). There may be quite agreement on what “bad practices” are (Boxall & Purcell, 2003), but there is no consensus on what “best practices” are. Their conceptualization, interpretation, and measurement remain subjective and variable among people, countries, and time. Therefore, while some commonalities exist across various lists, there is less of a consensus, and lists vary over time, location, and researcher. The varied use of terms and concepts such as “work systems” for high “performance,” “commitment,” “involvement,” and so on create more uncertainty

and opaqueness. Thus, we could quickly agree on and coalesce around sensible HR practices, but “things tend to get out of hand, however, when writers aggregate their favorite practices—and their implicit assumptions—into more ambitious lists and offer them to the world at large. Such models generally overlook the way that context affects the shape of the HR practices that emerge in a firm over time” (Boxall & Purcell, 2003, p. 68).

In addition to the identification and definition are the following issues. First, we can question the extent to which all organizations might wish, or be able, to implement best practices due to costs and/or sectors in business strategy and location. Thus, “lower value-added approaches may prove highly profitable in specific industries and locales” (Redman & Wilkinson, 2006, p. 266), and consideration of cost-effectiveness is important (Boxall & Purcell, 2003). Second, we need to ask, For whom is this best practice: organizations, shareholders, senior executives, managers, or employees? Much literature fudges this (Boxall & Purcell, 2003) or assumes “for all” (Redman & Wilkinson, 2006). Yet, such unitary perspectives are not common throughout the world (Rowley & Warner, 2007), and organizations are composed of

Table 21.2 Selective Research on Best HRM Practices by Practice

<i>Suggested Best Practices</i>	<i>Author</i>
Career opportunity	Michie and Sheenhan, 2005
Cascading information	Thompson and Heron, 2005
Employee training and development	González and Tacorate, 2004; Martel, 2003; Michie and Sheenhan, 2005; Pudelko, 2005; Rowley et al., 2004; Snell et al., 2000; Takeuchi et al., 2003
Employee participation	Martel, 2003; Michie and Sheenhan, 2005
Enterprise-focused employee relations	Rowley et al., 2004
Flexible resourcing	Rowley et al., 2004
Good working environment	Martel, 2003
Provision of induction	Thompson and Heron, 2005
Long-term commitment	Takeuchi et al., 2003
Performance appraisal	Björkman and Lu, 2001; González and Tacorate, 2004; Martel, 2003; Michie and Sheenhan, 2005; Pudelko, 2005; Thompson and Heron, 2005
Performance-based pay	Pudelko, 2005; Björkman and Lu, 2001; Rowley et al., 2004; Thompson and Heron, 2005; Michie and Sheenhan, 2005; Martel, 2003; González and Tacorate, 2004
Recognition	Martel, 2003
Retention through in-company welfare	Takeuchi et al., 2003
Rigorous recruitment and selection practices	González and Tacorate, 2004; Martel, 2003; Michie and Sheenhan, 2005; Pudelko, 2005; Snell et al., 2000; Thompson and Heron, 2005
Team-based decision making	González and Tacorate, 2004; Takeuchi et al., 2003

a plural and divergent range of interests. Third, to whom are these practices applied, and is a minimum coverage needed of such groups and the organization's total HR? Fourth, are all best practices equally important, and are single practices or "bundles" of practices needed? If such groups are needed, what about the conflictual tendencies and contradictions best practices can generate? Thus, there may be incompatibility between practices. One example is Pfeffer's (1994) list which had incentive pay, high wages, and wage compression as three best practices in the rewards area. Are these practices actually likely to occur together? The furor in the media over excessive chief executive rewards and the vast gap in comparison to the pay of other employees, especially in American companies, shows that this is unlikely. Fifth, there has been only limited actual (as opposed to prescriptive or normative) diffusion and take-up, both at individual practice or HRM system level (see Boxall & Purcell).

An important issue is about global transference of such practices. The theory of take-up of Western practices derives in part from assumptions that they are somehow superior (Bae & Rowley, 2001). Economic dominance has led to diffusion of theory and organizational practice from the United States. While some researchers (see, e.g., Pudelko, 2005) believe that managerial practices in other countries are deviations from the American model, others (see, e.g., González & Tacorate, 2004) argue that competition between dominant countries means that no single "best" model persists. Rather, countries use their unique cultural and institutional frameworks to create distinct national competitive advantage, potentially militating against the diffusion of best practices. Cultural theorists concur that if practices and cultural values are compatible, it will be easier for employees to understand and internalize practices (Rowley & Benson, 2002, 2004). Historical contexts, unique cultural values, and institutional variations all retain their influence over organizations and local workforces in Asian economies and may foster the development of a unique Asian management model (Rowley, Benson, & Warner, 2004).

In summary, there is debate about best practices in terms of precisely what they are and what their universal application is. "Beyond a certain level of obviously sensible practices, managers start to think about their unique context. This naturally engenders diversity rather than uniformity in HRM" (Boxall & Purcell, 2003, p. 63).

Why Transfer Occurs

Why have transfers of HRM occurred? According to some theorists (see, e.g., Kerr et al. 1962), worldwide socioeconomic and political forces create tendencies for countries, and by implication their management practices, to become more similar. Globalization, internationalization, and technological advancement further push national systems toward uniformity as copying and transferring of the practices are encouraged. One implication of this is that

HRM systems of different countries will grow more similar and converge (Rowley et al. 2004).

Kerr et al. (1962) observed that the organizational and institutional patterns of societies can converge, suggesting that industrialism generated socioeconomic, political, and technological imperatives that molded the development of national institutional frameworks toward a common pattern or convergence. Furthermore, globalization and, subsequently, the consequences of the Asian Crisis, which forced firms to adopt different practices to be competitive and survive, can fuel transfers. HRM change was seen as a suitable strategy for corporate renewal. MNCs exported new practices to their local subsidiaries and became the target of benchmarking by indigenous firms. Edwards and Ferner (2002) argued that MNCs can be a principal channel for transferring knowledge across borders as they can adopt a proactive approach to identify and propagate best practice, while learning about local environments and regulations. The impact of such drivers, however, has not been uniform in the region and mixed with economic, political, and cultural forces.

Technological developments also may aid transfers. This includes Internet applications in business. The extensive use of the Internet is revolutionizing the nature, conduct, and organization of business. Some companies have slowly utilized technologies related to improving HR functions, for example, e-training, online job posting, e-learning, and so forth.

Proposition 1: Some forces and trends are generating a transfer of Western HRM best practices to Asia-Pacific economies.

Institutional theory and imitation forces play another role in transfer. Three mechanisms of institutional "isomorphic" change ("coercive" isomorphism to gain legitimacy, "mimetic" isomorphism to avoid uncertainty, and "normative" isomorphism from professionalization) are suggested (DiMaggio & Powell, 1983). Therefore, practices may be transferred not simply because of their effectiveness (or because they are "best") but due to social forces to gain legitimacy (McKinley, Senchez, & Schick, 1995). The ideological shifts from communism to market socialism in the People's Republic of China (henceforth, China) and Vietnam and implementation of economic reforms in Malaysia and elsewhere in Asia have created a new institutional environment and exerted pressure for firms to adopt institutional rules. Local companies start to conform to social constraints and accept other practices. For instance, in China the accession to World Trade Organization (WTO) pressurized state-owned enterprises (SOEs) to imitate the practices of Western MNCs to demonstrate that they are in step with international markets. The popularity of overseas business schools in many Asian countries also promotes transfers and ideas of managerial practices seen as prevalent in Western countries. The implicit assumption suggests that best practice effects are not national or company specific, but rather universal and transferable.

There is, however, a paradox. Can Asian countries “benchmark” HRM practices to become competitive? According to resource-based theorists (see, e.g., Lado & Wilson, 1994), unique (i.e., rare and inimitable) HRM practices cannot be copied or transferred. HR elements are path dependent and made up of policies and practices developed over time (Becker & Gerhart, 1996). Therefore, there are limits on organizations converging toward other companies’ socially complex elements and practices. Similarly, contingency theorists argue that organizations, people, and situations can vary and change over time according to the external environment (see, e.g., Jackson, Schuler, & Rivero 1989), to the firms’ stage of international evolution (see, e.g., Adler & Ghadar, 1990), or to tally with business strategy (see, e.g., Becker & Gerhart, 1996). Thus, the right mix of transferable HRM depends on a complex variety of critical environmental and internal contingencies. In sum, a paradox exists here because while imitating practices may lead to competitive advantage, it is hard to copy practices implicitly embedded in organizations.

Proposition 2: Institutional forces and external pressures generate HRM practices unique to the Asia-Pacific region and different from Western best practices.

Transfer Issues

The transferability of HRM can occur in multiple dimensions. First, MNCs can use an ethnocentric strategy to transfer their headquarters’ practices to their overseas subsidiaries, employ a polycentric strategy to totally adapt to local situations, or adopt a geocentric strategy to balance both global integration and local adaptation (Caligiuri & Stroh, 1995; Dowling, 1989). Second, transfer of management ideas can be viewed from various theoretical perspectives, namely rational, psychodynamic, dramaturgical, political, cultural, and institutional approaches (Sturdy, 2004). Third, the transfer process can be at different stages: preinstitutionalization (where there are few adopters and a limited knowledge about practices), semi-institutionalization (where practices are fairly diffused and have gained some acceptance), and full institutionalization (where practices have become “taken for granted”; Tolbert & Zucker, 1996). Thus, adoption of a transferred practice can occur at various degrees. At the surface level is implementation, whereby formal rules are followed by external and objective behaviors, but at the deeper level is internalization, whereby employees have commitment to, and ownership of, the practice (Kostova, 1999).

Another question relates to level: where and how much transfer do we need before we conclude transfer has occurred? From a system point of view, an HRM system includes architecture (guiding principles and basic assumptions), policy alternatives (mix of policies), and practice process (implementation and techniques; Becker & Gerhart, 1996; Rowley & Benson, 2002). Does transfer occur at all levels? Or does it occur at some levels? If transfer has oc-

curred, over what time span and at what speed has it taken place? These are key analytical and research issues and questions in this area.

The transferability of HRM then becomes a matter of level and degree. For example, at the practice level, people may resist guiding principles due to local customs or lack of training, or operational practices may not be built into policy owing to external constraints. Adoption of HRM in Asia appears strongest at the level of practice and weaker at the policy or architectural levels (Rowley & Benson, 2002).

Yet, even at HR practice level, embedded customs and traditions constrain transfers. Other factors, including stage of economic development and level of technology, can hold back transfers. For instance, the rate of acceptance of new knowledge is slow and cautious in the region. Countries like China continue to rely on traditional ways to keep personnel records and administer welfare benefits (Chow, 2004). The degree to which local companies implant new practices is constrained by organizational inertia (Warner, 2000), especially their cultural and institutional heritages.

HRM in the Asia-Pacific region is often different from many Western practices. It is, therefore, worthwhile to further investigate best practice transfer in the Asian context.

METHODS

HRM is crucial for organizations and economies to achieve success (see, e.g., Barney, 1991; Pfeffer, 1994). Yet, despite this view of HRM’s value as a specialized and specific business function, it is a relatively new area of interest in Asia. It is hard to come up with a common method to assess all Asian countries as a whole on the application of HRM best practices. The complication stems not only from those elucidated earlier, but also from the fact that it is probably too simplistic to assume a homogeneous bloc of countries in this region.

Not a Single Homogenous Bloc

In fact, the region comprises areas of vast diversities (even within national boundaries) in terms of demographic characteristics, economic development, social background, and cultural values. It would not be surprising that rate of new knowledge adoption and the degree of foreign influence are not the same across the region. The region consists of a wide range of countries and national systems. Geographic and demographic factors feature strongly. The economies range from those with very large populations like China and Indonesia to those with a few million inhabitants like Hong Kong and Singapore. Countries also have differing birthrates and age profiles. This population variable can mold the nature of the labor market and the workforce. Unemployment rates have also been uneven, with some economies doing better than others as growth

created varied demands for labor. The range and variety of the working population in the region are varied.

Economically, most of the Asian countries had rapid growth rates over the last two decades, although variable from year to year. Many people doubt whether previous Asian economic growth can be sustained. In addition, governments play dominant roles in the region. Southeast Asian nations such as Vietnam and Malaysia experienced heavy state intervention including tight regulation and control of labor markets and trade unions. This shows that each country has taken a different development path and, hence, emerged with a distinct pattern of industrial structure. Deep-rooted differences among Asian economies mean management and HRM practices may vary as well.

Different National Cultures

Another complication in HRM practice transfer is multiple national cultural values (Rowley, 1998). The debate of “culture-free” and “culture-specific” relates to the extent that localities retain power to influence management practice or are overridden by transferred practices. It is concerned with the degree to which businesses take account of the particular contexts in which they operate and from which they evolved.

Prima facie, the whole region seems to share some common cultural values, hence the often-used phrase “Asian values.” Yet, Asians’ religious and philosophical beliefs vary and include Confucianism, Buddhism, Islam, Christianity, and Taoist traditions. Sinha and Kao (1988) argued that Asian productivity and growth is widely attributed to both traditional management styles and work attitudes rooted in Confucian social values, familism, and so on, not found in Euro-American contexts. After all, best HRM practices ought to be the ones best adapted to cultural and national differences.

Various Degrees of Foreign Impact

Influence from foreign countries is also felt differently across the Asian economies. One impact comes from experiences of earlier colonization and occupation from a range of countries (Britain, France, Netherlands, Spain, Japan, and United States) and the inflow of MNCs and FDI. Foreign-invested enterprises (FIEs) can bring into the region not only the latest equipment and technology, but also management expertise and HRM. For example, new HRM systems and technology are found in the FIE-dominated, export-oriented industrialization (EOI) sector, as in Malaysia and East Asia (Rasiah, 2004).

APPLICATION

Questions arise as to whether theories and frameworks developed in the West apply in different contexts. To ap-

ply the HRM concept in other countries it is important to understand its meanings. Legge (1989) and others explain the term HRM by encapsulating its various differences from personnel management (PM): (a) whereas HRM concentrates on the management of teams, PM focuses on the control of subordinates; (b) line managers play a key role in HRM in coordinating resources, but they do not do so under PM; (c) the management of organizational culture is an important aspect of HRM but not PM; and (d) HRM is a more strategic task than PM.

Furthermore, HRM cannot be divorced from its institutional context. HRM (and best practices) are criticized as Anglo-American concepts and culturally bound (Easterby-Smith, Malina, & Lu, 1995). Whether they can, or even should, be replicated in the Asian context is a matter of opinion. Warner (1995) has cast doubt on applying the term *HRM* in Asia given the cultural differences that exist with the West. He used China as an example to argue that Western notions of HRM were not present in enterprises. The roles of PM were far from the concept of HRM as understood in Western theory. HRM with “Chinese characteristics” (Warner, 1995, p. 145) may be a more appropriate term to use.

Attempts to compare changes of HRM practices in different Asian economies often raise the question of what to include. The literature provides no clear list or model of HRM practices, and different researchers have their own lists. For instance, Rowley et al. (2004) used the common practice categories of recruitment and selection, training and development, and rewards and employment relations to compare HRM across three Asian countries (Korea, Japan, and China). Björkman and Xiucheng (2002) used rigorous recruitment and selection processes, extensive training, and performance contingent compensation systems.

Even if an agreement could be reached upon what to cover in the Asian context, it is difficult to encompass all HRM elements in a single, short chapter. Therefore, key areas where potential developments and changes can be reflected over time must be chosen. The approach taken here is to search for HRM areas where changes have occurred and where it is possible to observe transfer and adoption of best practices.

Huselid (1995) grouped HRM practices into dimensions that augment people skills, motivate employees, and organize workforces. Therefore, the best HRM practices are those that concern employment, rewards, and development. Some studies (see, e.g., Lado & Wilson, 1994; Pfeffer, 1994) show that companies utilizing their human capital as their unique advantage over others place top priority on people recruitment, reward, and development. Accordingly, three HRM practices are identified as best practices: employment flexibility, performance-based rewards, and employee development investment. These commonly appear on various best practice lists (see earlier discussion). These HRM practices will be discussed using examples and evidence from a range of Asian economies

including economic superpowers, both existing (Japan) and emerging (China), “little dragons” (Hong Kong, Korea, Singapore, and Taiwan), and developing nations (Malaysia, Thailand, Philippines, Indonesia, and Vietnam). While not totally comprehensive of the Asia-Pacific region, these countries do encompass the major economic and population centers.

HRM Best Practices

Employment Flexibility

Ideas of sophisticated recruitment and selection (Pfeffer, 1994) slightly metamorphosed into selective and sophisticated hiring (Pfeffer, 1998). Also, Pfeffer (1994) earlier had put forth promotion from within.

Seen as a Western HRM prescription, employment flexibility allowed for easier matching of labor to demand than was possible with former Asian lifetime employment models. Employment flexibility has various dimensions to it—not only numerical (dealt with below) but also financial and functional. The numerical flexibility in employment arrangements, for instance use of nonregular employees (i.e., part-time workers, casual workers, temporary employees, etc.), allows the organization to increase or decrease employment quickly in line with fluctuations in business demand without the costly overheads associated with full-time, permanent employees.

Contradiction and tension, however, exist between security and flexibility (numerical). For people like Pfeffer (1998), employment security was fundamental and underpinned other best practices. This is because HR outputs such as increased performance and motivation require some expectation of employment stability and concern for future careers and links to notions of the “psychological contract,” “mutuality,” “reciprocity,” “partnership,” and so on. This presents a dichotomy in the treatment of HR as critical assets for the long-term success of organizations and not as variable costs (Marchington & Wilkinson, 2005).

Performance-Based Rewards

Expectancy theory suggests that individuals are motivated to perform if they know that their extra performance is recognized and rewarded (Vroom, 1964). Consequently, companies using performance-based pay can expect improvements. Performance-based pay can link rewards to the amount of products employees produced. As such, attraction, retention, productivity, quality, participation, and

morale may improve. Yet, for best practice gurus such as Pfeffer (1998), rewards had twin elements and needed to be not only performance-related but also higher than average.

Employee Development Investment

Extensive and quality (with focus and delivery) development is one of the most widely quoted aspects of best practice HRM (Marchington & Wilkinson, 2005). For several authors, training and development play a crucial role in international competitiveness (see, e.g., Finegold & Soskice, 1988). Investment in employee development is valuable to meet the needs of economies and organizations with increasing demands for higher levels of skills. Besides, training is often regarded as a benefit offered by organizations to reinforce employee dependence on the organization. Completion of training can lead to promotion. As such, training plays an important role in social mobility and acceptance. Thus, substantial and continuous investment in employee development can be seen as a best practice.

What type of development should companies invest in? And, for whom in the companies should it be offered? Does it need to be job specific or general?

These three best practices are very different from traditional practices predominately used in Asia (i.e., lifetime employment, seniority-based pay, and organizational specific/technical skills training) (see Table 21.3).

Table 21.3 Comparison Between Asia Traditional Practices and West Best Practices

<i>HRM Practices</i>	<i>Asia (Traditional Practice)</i>	<i>West (Best Practice)</i>
Employment	Recruitment at fixed times to low level entry from trusted sources Strong internal labour market Lifetime employment Emphasis on technical skills, education, credentials or relationships Seniority (age and tenure) promotion	Recruitment on demand at all levels from open market Rigour in recruitment and selection techniques Emphasis on ability
Rewards	Seniority (age and tenure) Group based Egalitarian distribution of income	Performance-based (ability and competency) Use of performance appraisals
Development	Extensive socialization and on-the-job training Technical and vocational Often organizational-specific	Continuous learning General skills Sophisticated needs analysis and assessment Encourage team building

SOURCE: Consolidated from various literature highlighted in Table 21.1.

Table 21.4 Benefits and Costs of Asia Traditional Practices and West Best Practices

<i>HRM Practices</i>	<i>Asia (Traditional Practice)</i>		<i>West (Best Practice)</i>	
	<i>Benefits</i>	<i>Costs</i>	<i>Benefits</i>	<i>Costs</i>
Employment	<ul style="list-style-type: none"> • Loyalty and retain talent • Career trajectory • Reduce costs of resourcing and development 	<ul style="list-style-type: none"> • Slow to react to changes 	<ul style="list-style-type: none"> • Match business demand and market fluctuation • Less overheads cost 	<ul style="list-style-type: none"> • Negative impact on work equity and efficiency • Increase rate of employee turnover • Loss of resourcing expenditure and costs • Morale damaged
Rewards	<ul style="list-style-type: none"> • Avoid perception of favoritism and reduce employee turnover 	<ul style="list-style-type: none"> • Difficult to motivate • How to differentiate poorer performers 	<ul style="list-style-type: none"> • Motivate 	<ul style="list-style-type: none"> • Negative effect on intrinsic motivation, self-esteem, teamwork blue skies thinking, risk taking, and creativity
Development	<ul style="list-style-type: none"> • Organizational-specific and strong internal labor market so less loss, costs and wastage of leavers 	<ul style="list-style-type: none"> • Cannot quickly accommodate shifts in requirements 	<ul style="list-style-type: none"> • Increase productivity, mobility, and functional flexibility • Form of recognition and reward 	<ul style="list-style-type: none"> • High investment costs and loss if job-hopping, poaching, or misalignment with organizational objectives occurs

Issues

The analysis so far, however, does not mean that these three best practices are always better than traditional practices. These best practices have downsides, and Table 21.4 compares the benefits and costs. For instance, inter alia, employment flexibility creating an increasing proportion of nonregular employees has negative implications for work equity, efficiency, and morale and may boost employee turnover and be at the cost training budgets. Pay-for-performance can have destructive effects on intrinsic motivation, self-esteem, teamwork, “blue skies” thinking and risk taking, and creativity. A high level of training investment may generate negative returns if trainees job-hop, are “poached,” or are misaligned with organizational objectives. In addition, changes pressurize HR departments and practitioners to manage increased diversity and utilize different systems to cope with multiple employees’ needs, which may involve the operationalization of such traditionally costly and alien concepts and practices as rigorous performance assessments and meetings and even 360-degree appraisals.

Besides, there is the issue of compatibility of best practices. The resource-based view stresses the importance of complementary resources in combination or bundled to enable a firm to realize its full competitive advantage (Barney, 1995). Accordingly, best practices are most effective when used in combination with one another. An underlying theme

is that firms should create a high degree of internal consistency, or “fit,” or synergy among their HR practices (Michie & Sheehan, 2005). This idea that a bundle of practices may be more than the sum of the parts appears in the discussions of external fit, configurations, holistic approach, and so forth.

COMPARISON

A discussion of the three HRM best practices using examples of Asia-Pacific economies follows.

Employment Flexibility

Companies in different countries have taken different approaches to fit in with their institutional context. Some argue that national cultures affect hiring practices in various countries (Yuen & Kee, 1993). The restructuring of Asian economies due to globalization and industrialization, however, has led to a number of consequences including factory relocations, cutbacks and lay-offs, unemployment and subsequent retraining, and so forth (Warner, 2003) because businesses are looking for changes and adjustments in workplace HRM practices. After the Asian Crisis, companies realized that seniority-based systems and lifetime employment were costly; they needed flexibility in headcount

adjustments to enable quicker responses to market fluctuation and competition.

Classic lifetime employment was found in Japan. In recent years, however, a new group of workers known as “job-hoppers” has evolved. Opposed to seeking out a reliable company after graduating from university and staying until retirement, some younger Japanese have chosen to change jobs every few years (Benson & Debroux, 1997). According to a survey in Japan Statistics (2002), 18% of high-school graduates left their first job within a year. In addition, large companies employ flexible employment policies that relied on nonregular workers. This indicates change in traditional Japanese employment practice.

Lifetime employment is also changing in Korea. In 1999, the terms of the post-1997 Crisis International Monetary Fund (IMF) bailout forced the government to legalize layoffs, weakening this traditional concept. The general direction has moved away from lifetime employment toward easier employment adjustments. Consequently, permanent, full-time workers markedly declined and were replaced by part-time or nonregular employees (Rowley & Bae, 2004).

Nevertheless, the type of organization remains important. For example, public sector organizations, SOEs in countries like China and Vietnam, and government-linked firms in countries like Malaysia all retain greater lifetime employment.

Performance-Based Rewards

Some Asian managers believe that performance-based rewards of various forms (commissions, bonuses, profit-sharing, share options, etc.) are Western best practices because they tie rewards to job performance as opposed to traditional Asian “seniorityism” of compensation based on age and/or tenure. Companies offering such plans try to be more attractive than their competitors in recruiting and retaining the best talent. The earlier Asian Crisis and global competition, however, have made companies more conservative in making increases to all employees and more likely to take the form of performance-based incentives. The spread of Western compensation systems and performance appraisals through FIEs in China has been significant since the 1990s (Björkman & Xiucheng, 2002). Variable compensation in the form of stock options, employee shareholding, and the like have also seemingly spread and exerted influence over Asian compensation schemes.

We can, however, question the spread of such schemes across both sectoral types and with organizational hierarchies. Also, instilling a performance-based culture, a shift in HRM system architecture, demands consistent policy mixes and practices. Indeed, some companies are reverting to seniority-based systems as companies struggle to effectively assess work and productivity. According to one report, over 75% of Japanese companies that had introduced performance-based pay systems experienced difficulties in managing them (Japan Institute of Labor Policy and Train-

ing [JILPT] 2004). The major difficulties were (a) lack of a performance rating system to assess performance, (b) insufficient training for managers to make them commit to the system, and (c) feelings of a lack of job security and company loyalty. It seems that the transfer of a practice is one thing, but making it effective is another. If the transfer is not followed by a deeper level of internalization, both managers and employees will have difficulty in commitment and ownership of the practice (Kostova, 1999; Rowley & Benson, 2002).

Employee Development Investment

A well-trained and educated labor force is considered a major contributor to the economic performance records of Asia (Cooke, 2005). The need for skilled professions and high-quality executive training have created a boom for managerial training courses, MBA programs, and higher education opportunities in Asia. While an attractive choice for larger corporations, not every company has the resources to establish in-house training schools. Therefore, some large companies may send employees abroad to foreign universities for training. Small-and-medium-sized enterprises (SMEs) need to rely more on governments. China and Vietnam have only recently joined the WTO (2001 and 2007, respectively), strengthening international educational exchange and helping distribution and application of new knowledge.

Nevertheless, not all Asian countries employ a Western approach to development, but blend practices with Asian characteristics and institutional needs. The focus of management training in Korea, especially in large companies, is somewhat different than in the West. In Korea, emphasis was placed on team spirit and commitment to the company and coworkers (Drost, Frayne, Lowe, & Geringer, 2002). Companies took a more holistic approach to incorporate company value and business practices in people development.

Again, however, the sectoral and hierarchical coverage and spread of such practices can be questioned. It is a common finding that the most senior HR in organizations receive the most development expenditure.

In sum, our overview of these three HRM practices shows that it seems that HRM change involves gradual experimentation, and best practices cannot simply be adopted. As with most experimentation, the final outcomes may be difficult to predict and, hence, pose challenges in management research in such area.

FUTURE DIRECTIONS

This chapter provides an understanding of the issues of the transfer of best HRM practices to Asia. Three HRM practices (employment, rewards, and development) were examined in various countries. In general, internal and external

forces have led to pressures to transfer HRM best practices to Asian economies, but these also feel the force of resistance from contingent variables (location, sector, etc.) and, to some degree, have developed differently from the West. Converging to one best practice HRM is still debatable.

Cannot Conclude Full Transfer

Our first proposition is that market forces can generate a transfer of HRM best practices. We do find some support in that economic forces and technology are leading to a certain degree of HRM transfers to Asia-Pacific economies and, hence, some convergence. Changes are at a transitional stage, however, and the final outcome is difficult to predict. Warner's (2000) framework advocates four categories: (a) hard convergence, (b) soft convergence, (c) soft divergence, and (d) hard divergence. He speculates that the most likely outcomes for Asian economies would be variations of soft convergence and soft divergence, which might come through a number of similar global forces and lead to outcomes heading in different directions. A new format of organization, "perhaps analogous to the 'limited company' system in Western economies" (Warner, 2003, p. 28), may result.

It is too early to conclude that all Asian HRM is likely to converge to one model. HRM remains distinctive at the national level. It would be better to characterize the transfer of HRM practices as incremental and toward a distinct model with Asian characteristics (as suggested in proposition 2).

Past Success in One Situation Not Sufficient for Elsewhere

A great number of management practices, not just HRM, contain underlying assumptions and conditions for their successful application. As such, past success or best practice in one situation does not automatically guarantee an effective transfer and adoption in another, such as location. Conflicts with cultural values, institutional environments, and other conditions are likely. The interaction between various business contexts and cultures means that each country might develop its own unique HRM system.

Our analysis shows that success stories of HRM best practices in Asian countries have been mixed. The literature identifies a number of factors that support or hinder the transferability of HRM policies and practices. First, the meaning and operation of particular HRM practices can vary substantially between countries. Second, Asian development does not follow a homogenous model. Some economies in certain areas, such as China, Vietnam, Malaysia, Thailand, and so on, retain heavy state involvement in business settings. Third, the country of origin of the parent company, host-country institutions and legislation, expatriate managers, the company business strategy, and so on, all have effects on practice transfer. Future research should be customized to take into account such differences and nuances.

Practice Transfer and Making It Effective

Practices associated with the HRM model have been transferred, to various extents, to companies in Asia. Yet, many practices have not yet been fully internalized in policy choices or system architecture. As Rowley and Benson (2002) pointed out, adoption of the HRM model is strongest at the level of practice and weaker at the policy or architectural levels in Asia. The lack of significant change at the policy and architectural levels suggest that some unique attributes remain crucial constraints on adoption. In addition, practice transfer is one thing, but making it effective is another.

Acceptance of the HRM concept by transfers of practices to Asian companies has been slow and cautious. It seems that experimentation with Western HRM practices will continue and, in all likelihood, will be modified to suit the unique needs of each system (Benson, Debroux & Rowley, 2004). Future studies need to be directed to a deeper level of the HRM system for a better understanding of the degree of transfer. Studies of employee commitment and ownership of practices can better reflect whether adoption has or has not been consolidated.

Furthermore, institutional and cultural factors can restrict full transference, and so convergence, in HRM systems. The sheer variation of geography, population, economic growth, labor markets, and values means that converging to one best practice model of HRM is difficult, if not unlikely. While there are some signs of convergence among Asian economies in the direction of trends, very substantial differences in terms of final convergence remain. Things appear to change slowly in HRM. Researching over a longer time frame is desirable to show consolidation of HRM model.

Challenge to Conduct Research in Transitional Stages

The transfer of some best practices has happened in Asian countries, but not all practices have worked or simply been adopted, for example, the introduction of performance-based pay and subsequent reversion to seniority-based systems in Japan, the modification of training programs in Korea and China, and so forth. Experimentation with best practices will continue, but will be modified to suit the unique Asian characteristics such as local social, cultural, political, and legislative systems (Rowley & Bae, 2004; Rowley & Benson, 2002).

A high degree of uncertainty will continue to exist in the transitional experimental stage. Research on HRM in Asia can also pose other challenges. Most of the existing theories and research paradigms have origins in the West with limited Asian elements. This trend often means expecting Western management theories to fit in other contexts rather than searching for new concepts to explain similarities and differences between Western and Asian ones and so, may not be ideal (Poon & Rowley, 2007). The main concern is not that

Western theories and frameworks do not recognize differences between Western and Asian institutions and cultures, which they can do. The issue is that the studies may not capture and represent the underlying cultural and philosophical assumptions and, as such, end up underrepresenting or misrepresenting Asian conceptions of HRM (Poon & Rowley, 2007). More investment and effort to develop models and frameworks to suit Asian contexts are desirable.

SUMMARY

This chapter discussed the issue of the possible transfer of best practices to the Asia-Pacific region. Globalization, institutional forces, and benchmarking have turned out to be some drivers of the reconfiguration of Asian HRM toward a more Western HRM type. The influences of foreign impacts through FDI, MNCs, Internet usage in business, and so forth, are also revolutionizing business and management. Some HRM best practices, for instance, employment flexibility, performance-based rewards, and employee development investment, can be observed across the region.

Despite continued assertions that the transfer of some HRM best practices has occurred, however, hard, descriptive (as opposed to prescriptive or normative) evidence does not support a convergence toward a Western model for Asian economies. Asian economies experiment with technology, techniques, and managerial practices from the West and modify them to suit their needs. Acceptance of best practices by Asian companies has been slow, and many best practices have not yet been fully internalized in policy choices or system architecture. The sheer variation of geography, economic growth, and labor markets, as well as cultural values, implies that converging to one best practice Asian HRM model can be difficult to sustain.

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Also of Interest

- The two leading journals to include work in this area are *Asia Pacific Business Review*, and *International Journal of HRM*.
- Various books in the Working in Asia series published by Routledge/Taylor and Francis have information on this area, either directly as the focus or within chapters. For example:
- Rowley, C., & Abdul-Rahman, S. (2007). *The changing face of HRM in South East Asia*.
- Rowley, C., & Paik, Y. (2007). *The changing face of management in South Korea*.
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- Management in Developing Countries (19)
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 Culture-Sensitive Global Strategies (37)

CULTURAL DIFFERENCES IN PERCEPTIONS OF FAIRNESS IN ORGANIZATIONAL CONTEXTS

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What is perceived as fair in organizations has been a topic that has received an enormous amount of research attention as it has the potential to impact individual, group, and organizational outcomes. Due to increased intercultural interaction in recent years, cultural differences in perceptions of justice have gained an increased practical importance as well. This chapter reviews relevant findings of organizational justice research in various fields such as industrial/organizational psychology, organizational behavior, human resource management, cross-cultural psychology, and international management in an attempt to identify and understand the influence of culture on human perceptions and behavior. The chapter presents representative results of cross-cultural comparisons of the processes that mediate perceptions of justice and behavior in various cultures. Further, the theoretical and practical implications of these results for human resource management in organizations are discussed.

All the people like us are WE
 And everyone else is THEY
 And THEY live over the sea,
 While WE live over the way.
 But—would you believe it?—
 They look upon WE
 As only a sort of THEY.

—*Rudyard Kipling*

Within the past 3 decades, social and organizational scientists have paid an enormous amount of attention on the topic of organizational justice (for a review, see Colquitt, Conlon, Wesson, Porter, & Ng, 2001). Research on organizational justice examines fairness perceptions of employees in terms of how they are treated in the workplace. Psychologists are concerned with the behavioral and social consequences of fairness perceptions. The growth in this area of research is grounded on the notion that employee productivity is obtained at the cost of employee satisfaction. This assumption reflects underlying reciprocity principle: perceived fair treatment → job satisfaction → decision to reciprocate by the employee.

Let us first consider the process of perception in human beings before moving on to the topic of organizational perceptions. Perception is the process of receiving and interpreting information about the world through our senses. In the first place, employees are individuals who first learned to process information through the cultural lens to interpret the outside world. In doing so, individuals learn a certain way of perceiving and interpreting the behaviors of others around. Individuals in a given culture learn to behave (think, feel, and act) according to the norms established in that culture. This tendency to use the cultural lens to interpret the world, learned patterns of behaving and expecting others to behave in a particular manner is what cross-cultural researchers refer to as ethnocentrism. Ethnocentrism is a natural and inevitable consequence of socialization in a given culture. Individuals, because

of socialization, learn many rules about how to behave. These rules form the foundation of culture. By the time an individual enters adulthood and enters the workplace, he or she has internalized the rules of behavior. Another related definition of ethnocentrism suggests a tendency to judge people of other groups according to the standards of one's own in-group or culture. Scholars have identified two forms of ethnocentrism: (a) Flexible ethnocentrism lends one to add on to one's cultural filters and helps one to see things from different perspectives, and (b) inflexible ethnocentrism, on the other hand, refers to the inability to go beyond one's own cultural filters while interpreting the behavior of others. Ethnocentrism is often referred to in negative terms and not as a normal aspect of everyday psychological functioning. Some degree of ethnocentrism is necessary for maintaining social order and cohesion. There would not be any reason to observe norms, to obey laws of society, or to work harmoniously with others if not for the implicit positive evaluation of ways of one's own culture. If ethnocentrism is inevitable and a natural consequence of enculturation, it could be a potential source of intercultural conflicts as well. Ethnocentrism has also been reported to lead to stereotypes and prejudices. The role of emotion, self, and values in the formation of ethnocentrism has also been well attested. When there is a discrepancy between reality and one's expectations based on culture the result may likely be negative emotions. Whereas what is being perceived matches one's expectations positive emotions and attitudes (e.g., job satisfaction) follow.

In organizational contexts, managers make several decisions that directly or indirectly impact the employees—hiring, promotion, budget allocation, and so forth. Research on organizational justice or fairness perceptions support that positive fairness perception is related to several outcomes including employee loyalty and events or decisions perceived as unfair will have a negative impact on employee behavior including retaliatory behavior, theft, and rule breaking (Skarlicki, 2001). Further, research findings point out that the individual perceptions of fairness and their behavioral consequences in turn affect group or division level performance, which in turn casts an influence upon the overall organization as measured by organizational performance and competitive advantage. Social and behavioral scientists have begun to investigate whether these concepts have international implications. Multinational corporations continue to seek competitive advantage through global diversity and this trend calls for cross-cultural research with the hope that it can help businesses generate new competitive advantages. Examining fairness perceptions and investigating the cross-cultural differences and similarities in how people respond to perceived fair/unfair treatment is a timely and important topic for 21st-century management.

Organizational justice is a behavioral science concept that refers to the perception of fairness of the past treatment of

the employees. . . . It is a subjective personal view of justice, based upon experience, rather than an objective moral determination of justice based upon principle. (Hosmer & Kiewitz, 2005, p. 67)

Justice analysis generally centers around four central questions:

- (1) What do individuals and collectivities think is just and why?
- (2) How do ideas of justice shape determination of actual situation?
- (3) What is the magnitude of the perceived injustice associated with given departures from perfect justice?
- (4) What are the behavioral and social consequences of perceived justice/injustice? (Jasso, 2005, p. 15)

Western justice theorists have held that justice indicates whether employees are valued and respected members of an organization. Management by rewarding employees consistent with their performance acknowledges that employees are valued and recognized (Fischer & Smith, 2004). Social scientists have shown less interest in knowing what justice "really is" and more interest in describing individual perceptions of fairness attempting to assess what people perceive as fair and how they respond to perceived unfairness. For this reason, a vast majority of research studies on organizational justice or perceived fairness have examined either the direct effects of individual differences (e.g., personality) or other contextual factors (e.g., organizational structure). Please note that throughout the rest of the chapter the terms fairness and justice are used synonymously.

Perceptions of organizational fairness have been found to influence several important outcomes at individual, group, and organizational levels. At the individual level, it affects attitudes like employee job satisfaction, commitment, and behaviors that include in-role performance and extrarole behavior. At the group level, fair perceptions can indirectly influence the morale of the group and its performance. Studies have repeatedly shown that there is a relationship between perceived injustice and counterproductive behavior and negative organizational outcomes. However, there are still several unanswered questions regarding the antecedents and consequences of justice perceptions.

Although human perception is influenced by (a) the characteristics of (b) the perceived, (c) the characteristics of the perceiver, and (d) the characteristics of the situation, much research attention has been directed at the characteristics of the perceiver and the situation in organizational justice research due to the potential interaction effects and consequences at various levels. This chapter presents key and representative findings in organizational justice research as outlined in the conceptual model presented in Figure 22.1. This model depicts the relationship of perceived fairness to various individual, group, and organizational outcomes.

This chapter reviews relevant findings of organizational justice research in various fields of research including industrial/organizational psychology, human resource man-

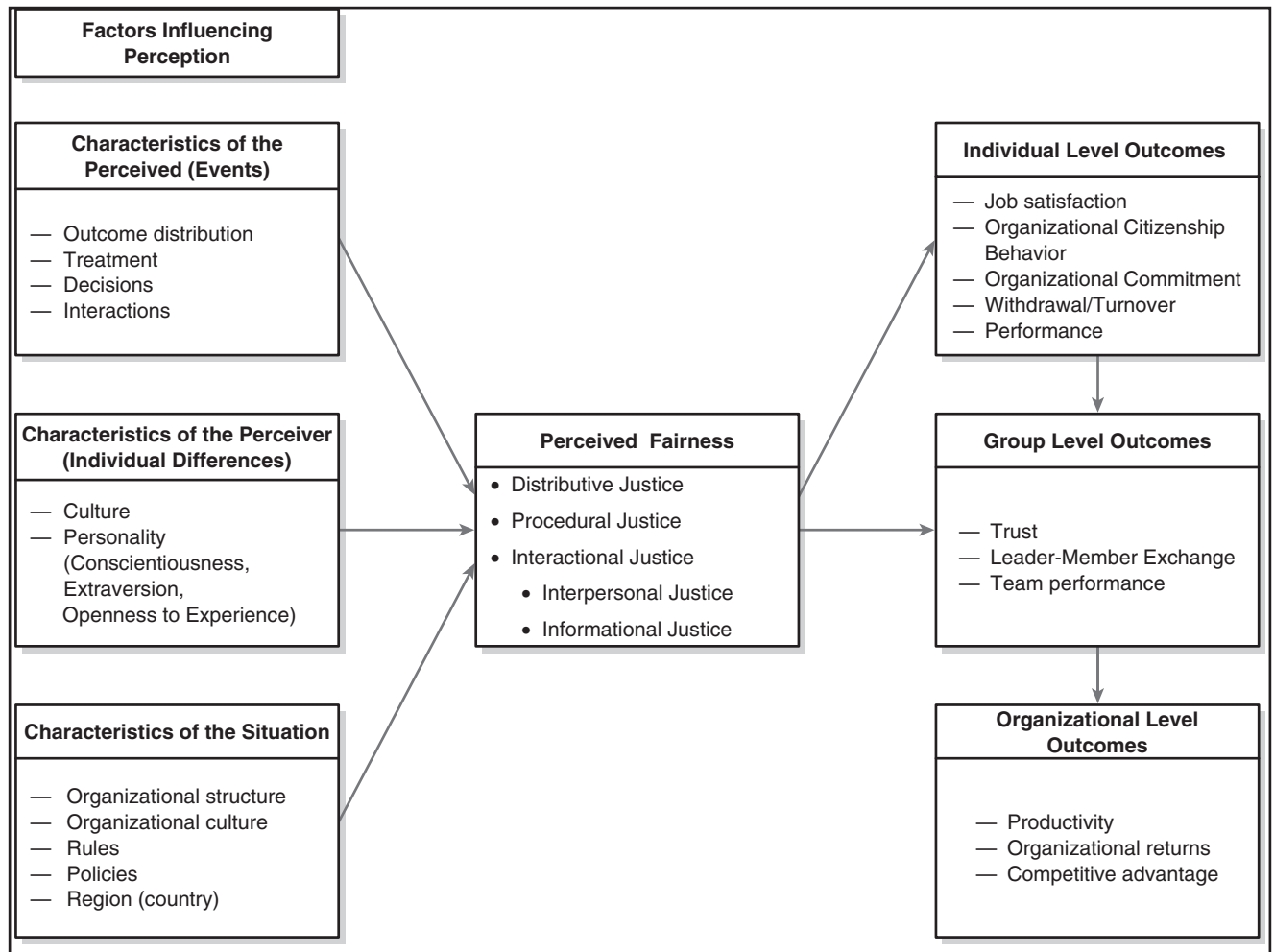


Figure 22.1 Conceptual Model of the Relationship of Perceived Fairness to Its Antecedents and Consequences

agement, organizational behavior, cross-cultural psychology, and international management in an attempt to identify and understand the influence of culture on human perceptions and behavior in organizational contexts.

ORGANIZATIONAL JUSTICE RESEARCH

The genesis of fairness perceptions construct lies in the tenets of Adams’s (1965) equity theory. Organizational justice is the overarching theoretical concept that deals with fair treatment of people in organizations. Most current research and thinking on this topic follows the theoretical framework suggested by Colquitt et al. (2001). Current research acknowledges the existence of three types of fairness perceptions or organizational justice: (a) distributive justice, which deals with the fairness regarding how outcomes are distributed; (b) procedural justice, which deals with the fairness regarding the procedure(s) adopted to distribute outcomes; and (c) interactional justice, which deals with how individual employees are treated in an organization.

Interactional justice, further, has been found to have two components: (1) interpersonal and (2) informational. Interpersonal justice refers to perceptions of treating people with respect and dignity. Informational justice refers to the fairness in timely, complete, and accurate information distribution.

As what is perceived as fair or just is inherently norm-based, culture and internalized values play a significant role in shaping expectations and fairness perceptions. As cultures prescribe norms and values for its members, it would be interesting to see cross-cultural differences in perceived fairness at all three justice levels.

ROLE OF CULTURE IN SHAPING FAIRNESS PERCEPTIONS AND BEHAVIOR

One’s culture may influence or mediate the relationship between events occurring in work life and its perceived fairness. Some theorists have recently advocated the importance of using organizational justice as a lens through

which to examine different national cultures (Greenberg, 2001). An important question that needs to be addressed is the generalizability of the findings about organizational justice that are based on one culture. From a theoretical point of view, exploring cultural similarity and differences in justice constructs will contribute to the comprehensiveness and universality of justice theories. “From a practical perspective, cross-cultural research can assist managers of multicultural organizations, as well as managers of a culturally diverse workforce within one country, to understand how organizational policies and their implementation impact employees’ perceptions of fairness” (Skarlicki, 2001, p. 292). The study of justice perceptions will be incomplete without understanding the differences in national culture. The notion that nations have identifiable cultures that can influence how business is conducted in that nation became a topic of interest through the research work of Hofstede (2001). His approach in studying employees’ work-related values represents an evolution in the field’s understanding of organizational culture. Much of what we understand about corporate culture and work-related values today is based on the results of his seminal work studying employees at International Business Machines (IBM). He conducted a series of research studies and compiled altogether the data collected from 50 different countries using 20 different languages and more than 116,000 employees ranging seven different occupational levels. The results indicated reliable and meaningful differences among nations as measured through the responses to the attitude and opinion surveys. Hofstede identified four major cultural dimensions that can be used to explain cross-cultural differences. They include the following:

Power Distance

Power distance is the extent to which less powerful members expect and accept unequal distribution of power. In other words, it is the degree to which a culture encourages and maintains power and status differentials. The United States scored relatively low on power distance, and Malaysia scored highest on power distance. In Hofstede’s (2001) original study, Philippines, Mexico, Venezuela, and India scored high on this dimension. New Zealand, Denmark, Israel, and Austria scored lowest, suggesting that these countries work at minimizing status and power differentials. This key factor may affect justice perceptions as managers in high power distance cultures are seen as making decisions autocratically and paternalistically, whereas managers in low power distance cultures are indulging extensively in adopting participative management on important decisions they take.

Cultures high on power distance foster organizations with greater centralization of organization and process, taller organizational pyramids, larger proportions of supervisory personnel, larger wage differentials, lower qualifications for lower strata of employees, and greater valuation of white-collar as opposed to blue-collar jobs. (Matsumoto & Juang, 2004, p. 435)

Individualism-Collectivism

Individualism-collectivism is a philosophy that expresses how individuals are related to a group. Individualism refers to the belief that individuals in a society take care of themselves and their family members. Collectivism is the belief that individuals are an integral part of the society whose primary concern is the collective group. As a result, individuals form perceptions of independent self (in individualistic cultures) or interdependent self (in collectivistic cultures). The United States scores high on individualism compared to all other nations. This is a very important dimension in organizational contexts, as collectivistic cultures value and foster compliance with organizational policies and expect conformity to the group/unit. In Hofstede’s (2001) study, the United States, Australia, Great Britain, and Canada scored high on individualism. Peru, Pakistan, Colombia, and Venezuela were found to score high on collectivism. People from individualistic cultures tend to make clear distinctions between their personal time and company/work time. Members in individualistic cultures value freedom and autonomy in structuring their work, they seek challenge, and initiative is encouraged at work. On the contrary, desiring to be independent, seeking freedom, and seeking initiative are frowned upon in collectivistic cultures.

Masculinity-Femininity

Masculinity-femininity refers to how far gender roles are distinct in a society. Countries scoring high on masculinity expect individuals to be instrumental and goal oriented, whereas countries high on femininity stand for a society in which social gender roles overlap. Japan, Austria, Venezuela, and Italy scored highest on masculinity. The United States is more masculine than feminine. Denmark, Netherlands, Norway, and Sweden scored lowest and had the fewest differences between gender roles. Gender equity at workplace is a concern for more feminine cultures. Many American work organizations are still in transition toward achieving this challenge. Masculine cultures expect managers to value leadership, independence, and self-realization, whereas feminine cultures place less importance on these aspects. They also regard earnings, recognition, and achievement as more important when compared to feminine cultures. Job stress is found to be high in organizations that operate in highly masculine cultures.

Uncertainty Avoidance

Uncertainty avoidance is the extent to which individuals in one culture feel threatened by uncertain or unknown events and situations. Cultures high on uncertainty avoidance develop highly refined rules and rituals to cope with or avoid uncertainty. In Hofstede’s (2001) research, Greece, Portugal, Belgium, and Japan scored high on this dimension. Those cultures high on uncertainty avoidance are found to be associated with higher degree of job stress

than cultures that are low on this dimension are. Countries scoring low on this dimension are less concerned with rules and rituals. The United States scored very low in uncertainty avoidance. Sweden, Denmark, and Singapore scored lowest on this dimension. These cultures are found to encourage individuals to be risk takers and to be entrepreneurial.

Hofstede's (2001) research has influenced how we think about culture and its consequences on conducting business in different nations. However, critics of Hofstede's work argue that national culture differences need not necessarily manifest in organizational culture. Another concern is that focusing on national averages can downplay the variability among individuals in a nation. Nevertheless, Hofstede's work has had a major impact on subsequent research and practice in the field. Organizations, in order to be successful, take into consideration these differences while structuring work, rules, and their policies.

CROSS-CULTURAL JUSTICE RESEARCH

Cross-cultural researchers have studied people's reactions to resource allocation outcomes (distributive justice), processes through which allocation decisions are made (procedural justice), and perceptions of fairness in interpersonal treatment they received (interactional justice). In most of the early work in cross-cultural justice research, culture was equated to country differences. In other words, most of the early studies were essentially cross-country studies. The major assumption adopted being people in one country share similar culture. Culture has also been captured through dimensions of values (e.g., individualism-collectivism). Scientists have also tried to adopt a more functional approach to understand organizational culture by studying employees' work-related values. People from different cultural backgrounds bring to work different values. These similarities and differences in value orientations related to work can be a source of growth or conflict. There has been a recent trend to focus more on specific value dimensions and other contextual factors. The following section provides a review of research conducted on justice perceptions with a cross-cultural or cross-national focus. Please note that an attempt has been made to present representative and key findings and, by no means, is this review comprehensive or exhaustive.

Perceived Fairness: Distributive Justice

Organizations make several decisions on distributing rewards and allocating resources using one of three distribution rules—*equity*, *equality*, or *need* based. Research findings support certain national preferences to use one distribution rule over others. It has been generally supported that while Americans prefer equity, people from Japan and Netherlands prefer equality, and people from India perceive need based distribution as more favorable. Cross-cultural

researchers have attempted to identify variables that could help explain these differences and value differences have emerged as one of the leading factors in providing such explanations.

Fischer and Smith (2004) using Schwartz's value survey studied reactions of full-time employees to performance versus seniority-based reward allocation in the United Kingdom and Germany. Two bipolar value dimensions of Schwartz's value survey include openness to change versus conservation and self-enhancement versus self-transcendence. Openness to change comprises of motivational types of self-direction, stimulation, and hedonism; conservation comprises of security, conformity, and tradition value types. Employees valuing conservation over openness to change are motivated by their belief in social order, obedience to authorities, and acceptance of their position in the organizational hierarchy. On the other hand, employees valuing openness to change are more likely to focus on justice. Self-enhancement values include power and achievement (even at others expense), and self-transcendence values include a motivation to transcend selfish concerns. Those sampled valuing self-enhancement reacted more positively to decisions based on work performance and seniority. The study results also indicate that employees endorsing openness to change values reported a stronger relationship between perceived fairness and organizational commitment. They also reported more compliant behavior, which goes above and beyond formal role descriptions (also known as extrarole behavior or organizational citizenship behavior).

There is also growing evidence that values measured with the Schwartz's value survey do predict individual behaviors. Managers with conservation values are more likely to use avoiding-conflict management style whereas self-enhancement values are related to forcing, competing, and dominating behavioral tendencies. Most research work on distributive justice explores individual response to a resource allocation decisions. However, some researchers have inquired into what factors decision makers consider while making an allocation decision. A study by Johansson, Gustafsson, Olsson, Gärling (2007) on allocation decisions identified three salient factors: self-interest, third-party fairness, and efficiency of resource allocation. The study concluded that decision makers overuse resources when fairness was a concern. Ramamoorthy and Flood (2004) researched gender-related pay disparity by studying Irish manufacturing organizations and found that gender moderated the relationships between distributive justice perceptions and affective commitment. The concerns of gender differences in pay need to be tested in different national context.

In a more recent work by Fischer et al. (2007), researchers focused on the social and economic context in distribution of organizational resources in studying employee perceptions of allocation decisions made by their supervisor. They studied the relationship of national values and economic and organizational factors across six nations and reported differences in reward allocation principles based

on equity, equality, and need in work organizations across Germany, United Kingdom, New Zealand, United States, and Brazil. All of these findings support the notion that values act as guiding principles in determining an individual's perceptions of events, behaviors, and situations.

Perceived Fairness: Procedural Justice

Researchers have studied fairness perceptions regarding processes or procedures managers use in allocating rewards and relevant outcomes. People hold expectations about what is a fair procedure in a given situation. It appears that beliefs about fairness are universal in nature (Greenberg, 2001). Examples of events related to procedural justice perceptions include performance appraisal, employee selection, and allocation of funding, to name a few. The primary goal of procedural justice research has been to explain why procedural justice matters. Very little attention has been given to studying the range of concerns that procedural justice encompasses or its definition. Researchers have found procedural justice, among all the three types of organizational justice, to be most closely related to organizational attitudes and behavior.

Leventhal (1980) proposed six criteria for evaluation of procedural justice and suggested that procedural fairness perception can be fostered by adhering to the following procedural rules: (a) consistency, (b) bias suppression, (c) accuracy, (d) correctability, (e) representativeness, and (f) ethicality. Perceptions of procedural justice have been found to be linked to various individual-level outcomes namely organizational citizenship behavior (OCB) or those extrarole behaviors that go above and beyond "the call of duty" (Kamdar, McAllister, & Turban, 2006) as well as organizational commitment (Fedor, Caldwell, & Herold, 2006). Fischer and Smith (2006) studied British and German organizations and found that value orientations of employees influenced the effects of perceived procedural fairness on organizational commitment, on self-reported compliant, and on proactive aspects of extrarole behavior. When employees perceive fairness of the process behind an outcome, they generally tend to have higher organizational commitment, greater trust and supervisory commitment. Studies with social-exchange interpretation of the justice-OCB relationship found that trust and organizational support mediate the effects of procedural justice on OCB. Employees having positive justice perceptions feel valued and respected and consider supervisors as more trustworthy. Yet another set of researchers considered employee role definition effects on OCB. Further research is warranted to uncover the extent to which the effects of role definition reflect social exchange versus impression management tactics.

Riulli and Savicki (2006) reported that lower procedural justice perception is predictive of higher burnout, strain, and turnover. Procedural justice was found positively related to organizational commitment and negatively related to resistance and turnover intentions. It has also been suggested that even when the employee does not perceive the

fairness of outcome (distributive justice), if the procedure is perceived as fair employees react more favorably toward the decision. Yet another study indicates that procedural justice perceptions are highly predictive of attitudes and behaviors especially when outcomes are perceived as unfair (Herscovis et al. 2007).

Very few studies have systematically examined the role of contextual variables in cross-cultural studies on fairness perceptions. Prior research indicates that decentralized organizations are perceived as more procedurally fair. There is also evidence that suggests that the degree of power distance in a culture will influence the rigidity of rules, regulations, and policies in organizations that operate in that culture. In a study by Ambrose and Schminke (2003), organizational structure was found to influence social-exchange relationship with organization and supervisor. Social exchange was operationalized as perceived organizational support and supervisory trust. Organizational structure was measured in their study in terms of the degree to which the departments reflected mechanistic or organic characteristics. Mechanistic structures are more rigid and tight. They reflect traditional bureaucracies where power is centralized, formal rules and regulations influence decisions, and communications follow clear hierarchical channels. In contrast, and on the other end of the continuum, organic organizations reflect flexibility and have decentralized structures where communication channels are less clear and rules and regulations take a backseat to helping employees reach their goals. For example, if it takes a manager to pay salary upfront to a subordinate to help attend a personal emergency, it would be rule breaking for an organization where employees get paid at the end of every month. (Some researchers refer to this as prosocial rule breaking, and they have begun to show research attention on this evolving concept.) As expected, Ambrose and Schminke found that the relationship between procedural justice and perceived organizational support is higher in mechanistic organizations. On the other hand, organic organizations were found to have higher interactional justice as observed through higher supervisory support.

Recently, the concept of "procedural justice climate," which refers to group-level cognition of how a group as a whole is treated in an organization, was introduced. Subsequently, results of cross-level analyses indicated that these aggregate procedural justice perceptions explained unique variance in behavior beyond individual procedural fairness perceptions. In another study, organizational procedural justice climate was found to moderate the effect of organizational variables like power and status on victim's revenge, forgiveness, reconciliation, or avoidance behavior (Aquino, Tripp, & Bies, 2006). Colquitt (2004) investigated reactions to procedural justice in teams and the results of two studies suggest that when fairness was perceived consistent within the team employees exhibited higher levels of role performance. These results extend the study of procedural justice perceptions to another level.

Procedural justice plays an important role in cooperative alliances where fair procedural justice perceptions can serve

as a foundation for the relationship between the exchange parties (Luo, 2005). Analysis of 124 cross-cultural alliances in China lends support to this proposition. It was found that alliance profitability is higher when both parties have high justice perceptions. Luo also identified that shared justice perceptions become more salient when the cultural distance between alliance partners is high or when the industry of operation is uncertain.

Perceived Fairness: Interactional Justice

Interactional justice is a relatively newer concept compared to the other two organizational justice perceptions. This type of justice perception occurs when employees perceive that they are treated well in the organization. Two identified types of interactional justice are informational and interpersonal justice. Showing concern for employees and treating them with politeness, respect, and dignity have been studied under interpersonal justice. Apologies have also been seen to demonstrate interpersonal justice. Informational justice perceptions occur when employees are provided timely, complete, and accurate information about the various information including policies and procedures in an organization.

A few researchers have suggested that treating an employee fairly is just not enough to increase performance; managers or leaders should also consider the fair treatment of other members in the team (Colquitt, 2004). Researchers have identified several characteristics of leader-member exchanges (LMXs) and their outcomes. Erdogan, Liden, and Kraimer (2006) studied teachers from high schools in Turkey, and the dimension respect for people was found to strengthen the relationship between interactional justice and LMXs. This would mean that the type of leader behavior that lead to liking and trust will lead to high-quality social exchange relationship. By a clear understanding of high-quality exchange relationship, organizations can foster desirable employee attitude and behavior. The relationship between interactional justice and supervisory trust was found to be stronger in organic organizations. Williams, Pitre, and Zainuba (2002) identified that interactional justice perceptions were related to the intentions to engage in OCB.

Aryee, Chen, Sun, and Debrah (2007) attempted to study the antecedents of abusive supervision and work outcomes of affective organizational commitment and citizenship behavior at organizational and individual levels. Subordinate-supervisor dyads from a telecommunication company from China served as subjects for this study. Results pointed out that authoritarian leadership style moderated the relationship of interactional justice (supervisors' perception) and abusive supervision.

Moliner, Martinez-Tur, Peiro, Ramos, and Cropanzano (2005) investigated interactional justice perceptions by considering the relationship between unit-level interactional justice perceptions and unit-level burnout. Quality of the relationship with supervisor was found to influence burnout experiences. The study findings emphasized the predominant role of interactional justice at the unit level.

The implications of these findings for practice include training of managers could promote interpersonal treatment and thereby maintaining well-being of team members.

There is a general agreement in the justice perceptions literature that fairness lies in the eye of the beholder. Based on Adams's (1965) equity theory propositions, if employees perceive a discrepancy between actual outcomes earned and expected outcomes this inequity perception may influence employee behavior. According to equity theory propositions, individuals make their judgments about what they bring to situations and compare it to a referent other. Fairness is perceived if one is perceived to receive better outcomes (rewards, treatments, etc.) and input (one's education, experience, skills, etc.) compared to that of the referent other. This would mean that equity comparisons are subjective judgments and the organization will have less direct control over it. Some researchers have asserted that certain individual differences (e.g., personality) moderate the effects of justice perceptions on job attitudes and subsequent behavior. The role of personality agreeableness, openness to experience, and test-taking self-efficacy were identified with perceived fairness. Most of the studies that examined the relationship of justice perceptions and its role in influencing employees approached the justice reactions from a rather cold cognitive response perspective. However, Barsky and Kaplan (2007) suggested examining a hot perspective would be more appropriate in studying work-related social judgments. These researchers focused on individuals' emotions (temperament and mood) in shaping justice perceptions. These researchers argued that when employees make judgments about events at workplaces under uncertainty and incomplete information employees rely on their feelings to make judgments. The study looks at state and trait affect, which are theorized to affect job attitudes (job satisfaction, job commitment, etc.) largely through separate mechanisms. The results show that state and trait affect relates to judgments of distributive, procedural, and interactional justice perceptions.

SUGGESTIONS FOR FUTURE RESEARCH

Future justice studies of cross-cultural nature should focus on evolving a comprehensive theory identifying precursors and consequences of perceived fairness at different levels of analysis. Future research could benefit by exploring possible antecedents like perceived breach in psychological contracts. Organizational and international interventions should explicitly consider the role of culture and its fit to practices in improving fairness perceptions and creating a fair work environment.

SUMMARY

The term *fairness* has meaning and relevance that transcends employee perceptions in an organizational context.

As organizations continue to excel in serving the global world with the needed products and services, it is imperative that we are mindful of the dynamic cultural aspects that come into play. There is growing consensus among international management researchers and practitioners that there is no such thing as universal management solution. Cultural differences, by shaping job attitudes and behavior, necessitate the need for identifying a fit between a given culture and practice. Management practices developed in one culture need not necessarily be successful in another culture. For example, empowerment initiatives, a very popular one in the United States, failed to yield positive results when exported to cultures where people are not expected to take initiative as a cultural norm. Available cross-cultural/cross-national research emphasizes the role of culture in shaping employee attitudes and behavior by forming a framework to assess fairness perceptions of rules, policies, allocation decisions, procedures, events, interactions, treatment, and so forth that they come across in an organizational setting. The national-level or societal-level culture will influence the organizational culture, which will in turn impact managerial practices and organizational effectiveness. As many organizations go global in the 21st century, leaders and managers should nurture a work environment/organizational culture in which employees thrive and reach optimal performance. Cross-cultural research should be conducted with a focus on both theory development and theory testing as it applies to different cultures to identify and explain different meanings of justice around the world. Given the continued and growing interest in fairness perceptions and its effect on employee attitudes and behavior, creating a framework to study the cross-cultural implications of justice perceptions on individual, group, and organizational levels and beyond is a relevant and timely topic for both researchers and practitioners of the 21st century management.

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WINNING IN ASIA

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Between 2001 and 2006, Asia's economies accounted for over half the world's growth in gross domestic product (GDP). During this period, the United States contributed 19% of the total increase in global GDP; Asia's contribution was 21% (*Economist*, 2006). But even these statistics understate Asia's real importance in the world economy because current exchange rates do not take into account the fact that a dollar buys much more in most Asian countries than it would in America or Europe. Measured in purchasing power (PPP) terms, Asia would look even more important as a growth engine.

It is hardly surprising, therefore, that companies headquartered in developed markets, where economic growth is no more than 3% or 4% in boom times and zero or negative when things are slow, are looking to tap into Asia's rapid expansion. China, which has consistently notched double-digit growth rates for more than a decade and, more recently India, which grew by 8% in 2006, look particularly attractive—especially as together they are home to over 2.4 billion people. That is not to forget the Association of South-East Asian Nations (ASEAN)—which has an additional population of 560 million—and Japan, which has a population of 120 million and is still the second-largest economy in the world. But what will it take for Western companies to benefit from Asia's potential, as it becomes an ever more powerful force in the world economy?

MORE THAN A MANUFACTURING CENTER

One approach so far adopted by many multinational companies has been to take advantage of lower Asian costs by transferring their basic manufacturing to Asian countries.

China in particular has become the “factory of the world,” doubling its share of global manufacturing to almost 7% in the decade to 2003 while most of the G8 developed nations saw their shares in global production fall. Other Asian countries are also benefiting from the global relocation of manufacturing: during 2006 Intel, for example, announced it was investing \$1 billion in new factories in Vietnam, while Flextronics, the firm that manufactures many of Hewlett Packard's printers, invested \$150 million in just one of its new Malaysian plants.

Even if productivity might be lower than at home, the potential cost advantages Asia offers are enormous. The average monthly wages of a factory worker plus social security totals around \$200 per month in Manila, around \$150 in Bangkok, and just over \$100 in Batam in Indonesia. Even in booming Beijing and Shanghai, where factory workers wages and social security costs often exceed \$300 per month, this is still a fraction of the cost of wages in the United States or Europe.

For all the attractions of Asia as a low-cost manufacturing location, however, focusing on this aspect alone would greatly underplay Asia's potential within a Western company's strategy. Asia has at least three other ways in which it can play a major role in a successful global company.

First is the potential of Asia's domestic markets as a source of new customers, rather than just as a production base for exports. Despite the preoccupation of many commentators with Asian products flooding into America and Europe, the major growth engine in most Asian economies is domestic demand. In 2006, for example, domestic demand contributed 8.3 points of China's 10.2% growth; over 7 points of India's 8% growth was accounted for by rising domestic demand; while in Indonesia 4.9 points of its 5%

growth was attributed to growth in its home market. Asian consumers and businesses now offer serious potential as the customers of the future. To take just one example, more than 80 million mobile phones were sold in China alone last year, and today leading global companies like Nokia and Motorola rely on the Chinese market for a large slug of their sales (and even more of their volume growth). More and more companies will need to gear up to sell to Asia as a core market—perhaps even *the* key global battleground—rather than treating it as an afterthought.

Second, companies can grasp Asia's potential as a source of new talent, not just a pool of low-skilled factory workers. In 2005, for example, there were 3.4 million new graduates from Chinese universities and colleges, three times the number graduating just 5 years ago. Last year, China passed the United States in terms of the total number of students enrolled in universities, so China now has more people studying for degrees than any other country in the world. The most popular majors were among the most relevant to the needs of commerce and industry. Business administration is the top choice, followed by computer science, law, finance, communications, medicine, and English. In the same year, more than 3 million people graduated from universities in India.

Again, some multinational companies have begun to tap into this potential in Asia. The large U.S. industrial services group Emerson, for example, has recognized that Asia must play a central role in supplying talent if it is to achieve its goal of increasing the number of engineers in its global staff from 6,000 to 9,000 before the end of 2007. The company recruited some 1,500 engineers in China alone in 2006 (Mitchell, 2007). SAP, the German company that is a world leader in the enterprise software on which most global companies rely, has over 3,000 employees in India engaged in software engineering. Many other companies have the potential to tap into Asia's growing talent pool in the future.

Third, there is the potential to tap into Asian innovation. In the past, with notable exceptions, such as Sony of Japan or Creative Technology of Singapore, Asian companies and the local subsidiaries of multinationals were mostly importers of new technologies and innovative products and services. This has led some people to the misconception that Asia is fundamentally less creative than the West. Those who doubt Asia is creative need look no further than the fact that four of the great inventions that changed the world—gunpowder, the compass, paper, and printing—all originated in China. Over the past decade or so, research and development (R&D) spending in Asia has increased dramatically. In Japan and South Korea, the ratio of R&D spending to GDP outstripped the United States for the whole decade of the 1990s. And in China today about 1 million are people directly involved in R&D. Measured in PPP, China's total R&D expenditure was estimated by the Organisation for Economic Cooperation and Development to have reached \$136 billion in 2006—the second highest in the world. Japan's R&D spending was a further \$130 billion. Both have been closing the gap on the \$330 billion

spent in the United States in the same year.

Some companies have also been taking advantage of this potential to tap into Asian innovation. Intel in China is a good example. It was one of the first companies to begin accessing China's technological knowledge and R&D capabilities, setting up joint labs with Beijing University and Tsinghua University in 1995. In October 2000, Intel expanded its cooperation with Tsinghua, setting up programs that, according to the CEO Craig Barrett would “increase the breadth of knowledge in e-business and e-commerce through hands-on research projects that couple the latest technological tools with new business practices” (People's Daily Online, 2000a). Since then, Intel has established three major research and development organizations in China: the Intel China Research center, focusing on human-computer interface research; the Intel China Software Labs, developing systems software for Intel products; and the Intel Architecture labs, an application development organization (People's Daily Online, 2000b).

Western companies clearly have an opportunity to grasp the growing potential of Asia far beyond its role as a place to outsource manufacturing. Today, Asia can be an important source of new customers in fast-growing markets, provide a new pool of talent, and be a source of innovative ideas and technologies. Accessing this broader new potential of Asia, however, will certainly require more than simply setting up shop and presenting the same products that sell at home to eager consumers, hiring local talent, or investing in a network of innovation and design centers. Asian markets are highly competitive and rapidly changing. So repeating formulas worked in the past, or cloning approaches used at home, is unlikely to succeed. New strategies are required to deal with the changing realities of Asia. The remainder of this chapter discusses the fundamental factors driving change in Asia's competitive game and what successful new strategies will need to look like to reap Asia's full potential. It lays out what will be required to respond to the challenges and grasp the opportunities that the changing face of Asia and its competitive environment is bringing in its wake.

FOUR MAJOR SHIFTS IN THE ASIAN COMPETITIVE ENVIRONMENT

Four shifts occurring in today's Asia are particularly significant: the demise of asset speculators, China's scattering of the pattern of orderly Asian “flying-geese” development and India's recent takeoff, the breakdown of national economic “baronies,” and the decay of “me-too” strategies.

The Demise of the Asset Speculators

Profitable strategies are supposed to draw their lifeblood from creating new value by finding ways to provide customers with goods and services that either better fit their needs or do so more efficiently than competitors' goods and services. If we are honest, however, that was not the way

a lot of companies in Asia made money during the 1990s boom. Instead, they grew rich through asset speculation: buying assets ranging from real estate to acquiring rival firms or building large manufacturing facilities and letting the rising prices of these assets swell the market value of their companies. Even as they continued to benefit from asset price inflation, too many senior managers in Asian companies were happy to bask in the illusion that they were creating new value through world-beating competitiveness and thriving in a dynamic, open market. The same was true for many of their multinational counterparts operating in the region whose management was more inclined to attribute their success to brilliant strategy and execution than to favorable market conditions.

The Asian financial crisis of 1997 shattered those illusions because, almost in a stroke, it removed the windfall of rising asset prices that had been the unspoken secret of success in many Asian businesses. Instead of capital gains, as asset prices rose year after year, Asian management faced a sustained period of asset price deflation. As banks and asset management companies were forced to share in the burden, the impact was delayed for years. But now, as Asian balance sheets have been reconstructed leaving the investment community chastened, the upper hand is shifting to those who can add the most value to the assets and resources they use and away from simply adding new capacity. The next round of Asian competition will reward those who can do more, do it differently, and do it for less, not those who build the largest corporate empires in Asia or assemble the biggest caches of assets on which to speculate.

China Scatters the “Flying Geese”; India Takes Off

A second major force of change in the Asian environment is the China-India factor. Asia’s traditional model of economic development was often described as “flying geese” in formation. Each country began by manufacturing and exporting simple, labor-intensive products like garments and shoes and assembling low-end products. As it accumulated more capital and know-how, it moved through products of intermediate complexity, and then to high-value-added products and services. As one country moved on to the next level of value-added products, another developing country took its place at the lower-value-added end. Japan led the flock, followed by Hong Kong, Singapore, South Korea, and Taiwan. Next came Malaysia, Thailand, the Philippines, Indonesia, and Vietnam. Albeit somewhat simplistic, this concept of national geese flying in formation underlies many government policies and corporate strategy. It shaped the pattern of what diversified Asian-owned companies invested in next and where multinationals located their activities in Asia.

Then along came China. The *Economist* magazine aptly summed up the result with a cartoon. It depicted a jet aircraft, piloted by a panda, zooming straight through the

flock of Asian geese (*Economist*, 2001). China was not flying in the cozy formation; by the new millennium, it was undertaking activities ranging from simple manufacturing to design and manufacture of high-technology components and equipment, from making rag dolls and molding plastic toys to the fabrication of semiconductors and specialized machinery. And China is doing this on a scale large enough to redraw the competitive map.

More recently, the deregulation and opening up of India has added further to these pressures. Since this process began in the early 1990s and has gathered pace over the last 5 years, India has become a powerful force in reshaping the competitive playing field in Asia. But India’s growth has been concentrated in different industries than those that led China’s expansion. While China’s growth has largely been driven by the manufacturing sector, in India growth has been led by service and knowledge industries such as IT services, software design, and biotechnology. In these sectors India is moving rapidly from a low-technology to a high-technology competitor. For example, the Indian pharmaceutical company, Dr. Reddy’s, has already moved beyond supplying the world with generic versions of established drugs to become an innovator of new medicines. It is launching a new diabetes medication in 2010, is spending between 12% and 14% of its revenues on R&D, and is working on new treatments for oncology, metabolic disorders, cancer, cardiovascular illness, and obesity.

Now that the flying-geese model of where to locate low- and high-end operations respectively has been exploded and the neat formation is in disarray, companies will have to reevaluate the roles of each of their subsidiaries across Asia. With China and India now key players in the Asian game, the winners will be those who can offer to restructure their operations into a more integrated Asian jigsaw where each subsidiary in Asia supplies specialized components or focuses on particular activities within the overall supply chain.

This development represents a fundamental change in the Asian competitive environment because when companies review the footprint of their existing operations through the new lens of a more integrated Asian supply chain, they will often discover that their existing subsidiaries are in the wrong places with too much vertical integration and possible specialization in the wrong things.

Semiconductor companies are a good example of the kind of new strategy that will be necessary. Leading companies in this industry have had to abandon the historic set-ups where they made high-end chips in one country and low-end chips in another. They have had to restructure so that a subsidiary in one Asian country does the circuit design, a subsidiary in another country does photolithography, and a subsidiary in a different location does the so-called “back-end packaging” of the final chip. These kinds of pressures for redrawing the map of Asia have huge implications for the strategies that will succeed in the future.

The Breakdown of National Economic Baronies

Asia's division into highly segregated national markets, separated from each other by a mix of tariff and nontariff barriers, cultural and language differences, divergent choices about local standards, and regulatory differences between countries is legendary. Within this environment it made sense for companies to approach each national market as a separate competitive playing field. This behavior was reinforced by various forms of preference given by governments to their local companies through the allocation of licences, preferential access to finance, and other kinds of direct and indirect support. Likewise, multinationals historically approached Asia as a collection of separate national markets.

In this environment, local "country managers" often became local barons: each in charge of a highly autonomous subsidiary within the Asian network. Each baron fought for the investment of more resources in his business unit and argued the case for against sharing functions from procurement and manufacturing to distribution and marketing on the grounds that any such moves would reduce his ability to respond to the peculiarities of the local market. The result was a set of largely independent subsidiaries spanning Asia under the umbrella of a "global" parent.

Today each of these country subsidiaries is under threat from the rapid growth of cross-border competition in Asia. A potent cocktail of falling trade barriers, deregulation of national markets, and falling costs of transport and communication is now opening the door to new sources of competitive advantage based on cross-border economies of scale and coordination. The results are striking. Trade between Asian countries is now growing more than twice as fast as Asia's trade with the rest of the world, reflecting a rapid increase in direct cross-border competition. And perhaps even more significantly, Asian companies have invested an average of almost \$50 billion every year in building or acquiring operations in other countries since 1995 (despite the setback of the 1997 financial crisis). Much of this investment is in building beachheads in other Asian markets from which to mount attacks on yesterday's national baronies. In the face of this onslaught, yesterday's fragmented Asian strategies will become untenable.

The Decay of "Me-Too" Strategies

Primary consumer demand—from first-time purchasers of everything from cars to washing machines and mobile phones—accounts for a large part of the market when economic growth in an economy first takes off. During this phase, consumers are willing to accept standardized, basic consumer goods. If you have never before owned a refrigerator, the most basic box that keeps things cool at reasonable cost is acceptable. But once consumers move on to become second- or third-time purchasers, they look for features such as the exact performance, styling, color,

and so on that suits their individual needs. Consumers begin to demand higher product quality and variety, not simply more volume. Whirlpool's experience when it entered the Chinese market for domestic appliances a few years ago is a good example of this change. Contrary to its initial expectations, it quickly found that Asian consumers rejected last year's American designs and technologies. Instead, they demanded environmentally friendly CFC-free refrigerators, washing machines with state-of-the-art electronic controls, and integrated, wall-mounted air conditioners instead of the standard type that hung precariously from a window space (Clyde-Smith & Williamson, 2001).

The same is true of fast-moving consumer goods (like food or cosmetics) and services: once your basic needs are satisfied by the range of products and services you consume, you start to look for particular varieties, flavors, sizes, presentations, and so on, or services customized to your individual needs. Even Asia's humble instant noodle now comes in more than 20 different flavors and a range of packaging from paper to styrofoam cups, not to mention pink "Valentine's Day" and red and gold "Chinese New Year Limited Edition" varieties (Donnan, 2000). These trends are a simple fact of life illustrated by Maslow's hierarchy of needs: as consumers become richer, they want better and more customized offerings, not "more of the same."

These trends now reach beyond Asia's wealthy elite. Throughout much of Asia, the mass market has now reached a stage of development where consumers are no longer satisfied with reliable, but standard and often boring products and services. Even in China and India, countries with huge rural populations (estimated at 900 million and 700 million, respectively) that have been little touched by consumerism, hundreds of millions of urban consumers are now sophisticated buyers that demand goods and services with the innovative features, variety and customization that precisely fit their individual needs. Companies unable to provide more innovative, flexible products will literally be left on the shelf.

In parallel, a new generation of Asian consumers is entering the market. Unlike their parents, today's so called "X" and "Y" generations have never lived through real hardship; they were born into a consumer society. As a result, they take an abundance of goods and services largely for granted. Their choices reflect a complex mix of demand for higher quality, fashion, a desire to express more individualism, and a "what's new?" mentality. While the precise implications of serving this new consumer generation will vary by industry, it is safe to say that they will demand even greater variety, customization, and innovation from suppliers than today's mainstream consumers.

Despite all these changes, the Asian consumer is unlikely to abandon his or her traditional nose for value. Nor are Asian business buyers going to forget their historic emphasis on costs. But in the next round of competition in Asia, a strategy based solely on churning out high standard products in high volumes is unlikely to be a winner—even if the price is low. The new environment will demand that

winning companies succeed in pursuing a strategy of being *different* from competitors, as well as better; decisively “setting themselves apart from the competition” with a wider range of product options, better customer segmentation, and more customized offerings and stronger brands to signal differentiation from competitors.

FORMULATING THE RIGHT STRATEGIC RESPONSES

Asia’s new potential and the fundamental changes taking place in Asia’s competitive environment together demand new strategies. Clearly, there is no single recipe for winning the new competitive game in Asia. But the new reality of Asia demands that managers stake out their territory on mix of four core ingredients: improved productivity; local brand and service; innovation; and internationalization designed to reshape the Asian playing field and reap cross-border synergies. Figure 23.1 displays the strategic options.

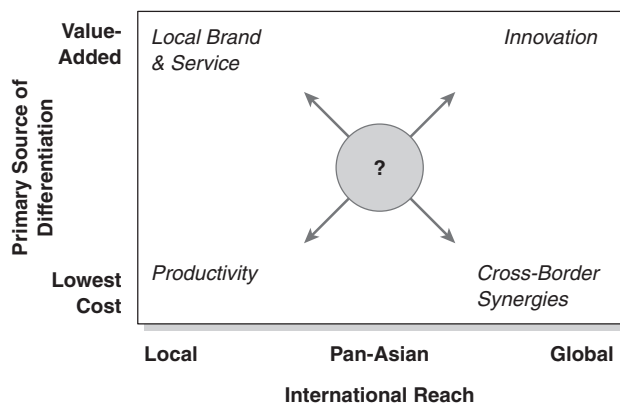


Figure 23.1 Strategic Choices for Winning in Asia’s Next Round of Competition

A New Productivity Drive

Given the demise of asset speculation as a way of underpinning Asian profits and increasingly intense competition from local companies in China, India and cross-border rivalry within Asia, a key element in future Asian strategy must be to enhance efficiency of Asian operations through productivity gains—especially in neglected “overhead” areas beyond the factory gate such as administration, sales, and distribution.

A recent study I conducted on a sample of consumer-goods multinationals operating in Asia found that at an average of \$75 million sales, their unit overhead was a staggering 300% higher than Asian rivals of comparative size. In fact, in a number of cases the overhead burden on foreign subsidiary expended just in dealing their foreign headquarters was higher than the total overhead of the local Asian competitors!

In many multinationals, overhead burdens rose during the 1990s when expansion at almost any cost was the name of the game. Companies recruited armies of staff to make sure support functions such as sales, administration, and distribution did not create bottlenecks or hinder the running of their expensive new factories. But as we enter a new round of Asian competition just described, it will not be enough for companies to rely on high productivity in manufacturing and routine operations alone. The productivity of their Asian competitors is increasing across a wide range of activities. A study by the Conference Board estimated that between 2000 and 2006 labor productivity in China rose at an average rate of over 10% per annum; in India the comparable figure was 4.5% (accelerating to 6.3% in 2006); even the most mature Asian economy, Japan, managed over 2% productivity growth (Giles, 2007).

In order to maintain their historic competitive advantage relative to Asian rivals, multinationals will have to be more assiduous about deploying advanced systems—in customer relationship management, logistics, and administration; “soft technologies”—to bring their Asian operations up to world-best-practice productivity outside core manufacturing and basic service operations. They will no longer be able to afford to follow the old adage that “Asia’s different” as an excuse for inefficient administration and low-productivity support and service activities.

Renewed Focus on Brand Building and Service Quality

As “me-too” strategies decay and Asian consumers demand more variety, customization, and service, there will be a growing need for the capability to deliver an improved product or service experience “on the ground” to every individual customer in Asia. Simultaneously, there will be a need to signal improved service to consumers and differentiate offerings from competitors by strengthening the equity of the brands in Asia market by market and customer by customer. The need for strategies to strengthen brand differentiation will be given further impetus as local Asian companies start to build or acquire their own brands—a trend that is well underway (see Figure 23.2).

Sometimes the rise of Asian brands in recent years has gone unnoticed by observers outside Asia. How Americans or Europeans realize that the highly successful clothing brand “Giordano”—a name that evokes European couture—is created and owned by a Hong Kong company. Are they aware that another fast-growing clothing brand, “British India” with retail outlets throughout the United States and Europe, is owned by Malaysian entrepreneur Pat Liew? It is time to forget the idea that Asian companies will forever lack their own brand and remain subcontract suppliers to established Western players.

As Asian companies begin to play the brand-building game, they often find ways to generate brand equity more quickly and more cheaply than their competitors thought possible. The powerful Banyan Tree brand, for example,



Figure 23.2 Some Asian Brands on the Rise

was achieved with a relatively limited advertising budget. Instead, Banyan Tree made a concerted effort to provide travel journalists with easy-to-use press packs and interesting editorial copy to publish in their magazines. The cost of this public relations was relatively low compared to advertising, while the credibility of editorials in magazines was vastly higher than an advertising pitch. Banyan Tree's Edwin Yeow has also remarked that editorial coverage was more effective in conveying the "holistic Banyan Tree experience" (Chua, Williamson, & DeMeyer, 2003). Banyan Tree further leveraged public relations to build its brand by entering its properties in competition for all major travel-industry awards and by taking its entry into these competitions seriously, with the right backup from senior management. As early as 1997, barely 2 years after its launch, Banyan Tree started its winning streak of a series of highly coveted international awards and accolades given by the travel industry and various publications for its resorts and spa. These awards proved invaluable in building a strong brand at low cost.

Other Asian companies, meanwhile, have built their brands cheaply and quickly by finding marketing channels with a high impact-to-cost ratio. When embarking on a brand-building campaign, multinationals often automatically gravitate to TV advertising. The total costs of building a brand through TV advertising can be daunting, and it's

not necessarily the highest impact per dollar of spending. As old marketing hands know well, it's not only how many people you reach, but also the quality of the target audience in terms of their purchasing power and potential interest in the product and service, as well as the time you have your brand in front of them. TV, as a mass medium, often scores low on both audience quality and the time for which the audience is exposed to the message. Acer is again a good example of a company that was quick to see the value of exploring alternative marketing channels beyond TV. For more than a decade, it has put its Acer name on the luggage trolleys at Asia's airports: both the "heavy luggage" trolleys and the small carts used inside Asia's massive airport terminals after check-in to shift hand luggage and duty-free purchases.

Compared to the mass of Asian TV viewers, people traveling through airports include a high concentration of potential customers for Acer's PCs: both business buyers and more affluent consumers who can afford to travel by air for leisure. The terminal carts therefore score highly as a channel to reach the target audience. Just as important, think about how long these potential customers are exposed to Acer's message. It takes 5 to 10 minutes to walk from the check-in or arrival hall to the gate in sprawling modern airports. So the potential customer has the Acer name and tagline prominently displayed in front of him or her for a

period equivalent to between 10 and 20 TV slots of 30 seconds! The impact-to-cost ratio of this “airport cart” channel has, not surprisingly, proved high.

There are at least two lessons for multinationals seeking to win in Asia in the next round of competition. First, they will not be able to take their brand premium for granted. As Asian competitors build stronger brands of their own, multinationals will have to increase their investment in brands in Asia. Better localization of branding, marketing, and service will also be required. Second, marketing managers in multinationals will need to reconsider how to match their Asian rival’s ability to reduce the cost of brand building using new, perhaps even unorthodox, communication channels.

As local brands become stronger, multinationals will also have to improve their ability to adapt their brands to better fit Asian consumer preferences if they are to win future competitive battles. The perils of failure to adapt are well illustrated by the experience of McDonald’s in the Philippines when competing with the local company Jollibee. Despite that fact that McDonald’s has been established in the Philippines for over 15 years, Jollibee maintains stronger brand awareness than its global rival and has some 600 outlets (30% more than McDonald’s). Starting from its base in ice-cream parlors, Jollibee entered the fast-food business with McDonald’s look-alike facilities and kitchens. Their secret of success was a product range better adapted to the Filipino palate than the global hamburger, with many more varieties of chicken and garlic and soy sauce in the burgers. To fight back, McDonald’s was forced to adapt its own menu much more sensitively to local tastes.

Concurrent with more local adaptation, however, winning Asia’s new competitive game will also require multinationals to simultaneously achieve better cross-border synergies between their subsidiaries in different Asian countries. Balancing these potentially contradictory pressures will demand a careful balancing act.

Reaping Cross-Border Synergies and Driving Consolidation

We have already seen that there is now a relentless competitive pressure on yesterday’s protected national baronies in the new Asian competitive game. If this new form of competition is not to undermine margins, better exploitation of cross-border synergies between different subsidiaries in Asia will be required. This will mean accelerating pan-Asian and global integration, leaving behind yesterday’s scatter of isolated national subsidiaries and facing up to country barons who resist a loss of independence.

As China continues to scatter the flying geese and India continues down the growth path, companies will need to rethink the role of different subsidiaries and locations within the overall Asian jigsaw. Rather than a loosely connected portfolio of largely self-sufficient national companies, each subsidiary will need to be refocused on a more specialized

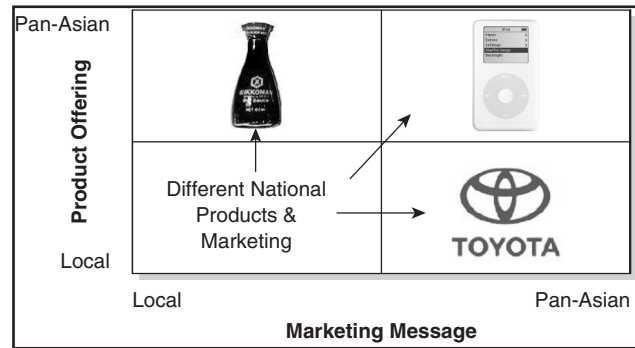


Figure 23.3 Pan-Asian Strategy, Local Adaptation

set of activities within a new Asian network that leverages the specific advantages and knowledge within each location.

At the same time, product and brand portfolios will need to be restructured to achieve the right balance between local adaptation versus the commonality and integration required to reduce costs. This requires some tricky choices about both the extent of variation in product specification and marketing message, as well as the interaction between the two. The four main alternative strategies are summarized in Figure 23.3.

Most companies start off in the bottom left of Figure 23.3, with a local product and a local brand. In building, a global brand might look attractive to use the same product and the same marketing message everywhere in the world you want to sell. Sometimes when consumer behavior is quite similar across the world, such as with the Apple iPod, this works well. But frequently building a pan-Asian or global position requires adapting the product or the marketing behind the brand to the unique preferences of consumers in different countries or regions.

Japan’s leading brand of soy sauce, Kikkoman, for example, uses the same product formulation everywhere in the world—its differentiation comes from the a rich, complex flavor that comes from being naturally brewed instead of being chemically produced by combining hydrolyzed vegetable protein with salt, water, corn syrup, and artificial coloring. The marketing message varies widely across world markets: In Asia it is sold as a dipping sauce; in the United States it is sold as flavoring for minced meat in hamburgers and in casseroles; and in Australia it is marketed as a barbecue marinade for seafood. The product is globally standard, but the marketing varies by country (see the upper left of Figure 23.3).

Toyota, by contrast, used the same marketing message for its core brand everywhere in the world: unrivalled reliability combined with value for money, captured in brands like “Corolla.” But the product sold under these common brands is differently engineered to adapt the cars for everything from rough roads in Australia to lower price points in India and Malaysia. The marketing is standardized globally, while the product is globally adapted (see the lower-right quadrant of Figure 23.3).

As competition from strengthening local firms combines with pressures to reduce costs by reaping cross-border economies across Asia, choosing and implementing the right positioning in Figure 23.3 is becoming critical.

In many industries, succeeding in the new competitive game in Asia will also mean taking advantage of the window of opportunity that is opening to drive consolidation of Asia's fragmented supply base. This window for industry consolidation is opening because more intense competition from China and India along with the elimination of the protective barriers around national markets is putting increasingly intense pressure on Asian companies to become more efficient and more focused about where they invest their resources in the future. This means that more and more companies will be forced, however reluctantly, to dispose of businesses where they lack the scale and the prospect of building sufficient depth of capabilities to compete in the next round (Mody & Negishi, 2001).

This will create a new supply of businesses for consolidators to mop up that was not there in the past. At the same time, it will be important to create a focused portfolio of businesses so that resources are not spread too thinly. Each business in the portfolio will need to be of sufficient scale to justify the fixed-cost investments in assets, technology, and knowledge necessary to keep up with global leaders. To succeed in this environment, winning firms in Asia will need well-honed capabilities for quickly identifying, assessing, and executing overseas acquisitions and then reshaping these into a fully integrated business.

Innovating in Asia

With the decay of me-too strategies and the resulting increased emphasis on innovation amongst their local Asian rivals, multinationals will not only have to exploit transfer innovative technologies and products into Asia more rapidly, but will also have to ramp up their own innovation activities in Asia. Rather than just exporting innovations and new technology developed at home, American and European multinationals will need to restructure their innovation processes to benefit from the availability of high-quality researchers and engineers at lower cost, as well as to learn more from their Asian operations (Doz, Santos, & Williamson, 2001).

One of the key things multinationals need to learn if they are to win in Asia the next round of competition will be "cost innovation." This refers to their capability to use Asia's low costs in novel ways to deliver high technology at low cost, variety at low cost, and speciality products at low cost—not just to cut the prices of standard products. Consider some examples of the kinds of cost innovation Asian firms, especially the emerging Chinese competitors, have achieved (Zeng & Williamson, 2007). Chinese computer maker, Dawning, rapidly gained market share with an innovative move that applied the technology of supercomputers to everyday network servers. Huawei successfully

penetrated the global market by offering high-technology, Next-Generation Networks to telecom operators at a cost well below its competitors. China International Marine Containers applied path-breaking research to replace the tropical hardwood in containers with a synthetic material. Shinco deployed its experience in using advanced technology for squeezing quality images out of substandard, pirated VCDs to produce the world's best portable DVD player. Rather than shelling out \$400,000 a piece for digital direct X-ray machines, Zhongxing applied different high technologies to develop cost-effective direct digital radiography machines for the everyday radiography needs of a hospital. Pearl River used sophisticated, flexible manufacturing methods and high technology for drying timber to improve value for money in the market for pianos.

Learning the secrets of cost innovation from Asia can also help multinational companies better unlock new potential customers in Asia and developing markets in other parts of the world. Prahalad described this strategy as unlocking "the fortune at the bottom of the pyramid" in a book by that name published in 2004. In a nutshell, the idea is that companies can make money for their shareholders while simultaneously helping lift people out of the poverty trap by devising ways to deliver more value at much lower cost. He argued that if incumbent multinationals were to take advantage of this opportunity, they have to reexamine six widely shared orthodoxies of Western management:

- The poor are not target customers.
- The poor cannot afford and have no use for the products and services sold in developed markets.
- Only developed markets appreciate and will pay for new technology.
- The bottom of the pyramid is not important for the long-term viability of their business.
- Managers are not excited by business challenges that have a humanitarian dimension.
- Intellectual excitement is in the developed markets.

In the past, too few multinational companies have seen the potential of leveraging innovations from their Asian operations across other markets. Even those who have done so, frequently fail to recognize Asia as an important, ongoing source of innovation. The primacy of the home base and the "parent" organization as the fount of innovation dies hard.

Forward-thinking multinationals are, however, beginning to reassess the potential role of Asia in their global innovation strategies. Consider, for example, General Electric (GE) Medical Systems. Today, GE Medical's Chinese subsidiary is responsible for the bulk of GE's global R&D in CT medical scanners. China also accounts for a slice of GE Medical's global R&D effort in magnetic resonance and X-ray ultrasound diagnosis equipment. In 2002, GE Medical's subsidiary in Wuxi fully developed and launched the LOGIQ Book—a high-end ultrasound diagnosis machine the size of a laptop PC. Despite being portable, it was capable of

high-quality color imaging with performance that matched existing bulky, desktop machines. Using the cost innovation capabilities available in China, GE Medical was able to put high technology into a portable, cost-effective offering. Perhaps not surprisingly, the product has proven a global hit. As its local general manager put it, “We have a strong belief: that is, if we can produce something at ‘China cost,’ but also of high quality, high functionality, and high technology, it will become a very popular mass-market product, and it will be truly welcomed by customers” (Yang, 2003). Seeking to replicate this success, GE Medical has now established 28 specialist-development laboratories, each focusing on a different product line across five SBUs in China.

In a very different industry, the global drinks group Diageo (owners of Smirnoff Vodka, J&B Scotch, and Bailey’s Irish Cream) has established an innovation group in Hong Kong whose role is to seek out emerging trends and technologies within the region for global innovations. Johnson & Johnson has begun to deploy innovative manufacturing processes designed in Asia across its subsidiaries in the region rather than implementing solutions born in the west. Over the last few years, more than 100 global R&D centers have been established in China alone by leading multinationals such as HP, Microsoft, and Motorola. Others need to follow these pioneers.

Another strategy for accessing these cost-innovation capabilities might be to acquire an Asian company with a proven track record in this area. This route seems to be increasingly popular. According to the accounting firm Grant Thornton U.K., in the 12 months to June 30, 2006, some 266 international companies from 41 different countries made acquisitions in China alone. It is notable that the high-technology sector accounted for the largest number of deals within the total (Grant Thornton International, 2007). It seems that international competitors are beginning to see the potential of accessing Asian technological capabilities to deliver innovation at lower cost.

ASIA’S NEW COMPETITIVE GAME

Given Asia’s broad potential to play a major role in a multinational company’s strategy, as an efficient manufacturing base, a rapidly growing source of potential new customers, a deep new pool of talent, and a unique source of innovation, winning in Asia is becoming critical for more and more Western companies. But there should be no doubt that the requirements to win in Asia are changing: It will take a different kind of company to succeed in Asia’s next round of competition than might have prospered in the past. Unquestionably, this will require determined efforts among multinationals operating in Asia to raise their game in the four key areas of strategy discussed previously: developing a new productivity drive, creating a renewed focus on brand building and service quality, reaping cross-border synergies and driving consolidation, and innovating in Asia. The mix

of these strategies will vary by industry and company. But whatever route a company chooses to take into Asia’s future, the new reality of competition in Asia is unavoidable: Amid renewed opportunity, there will be a sharper divide between the winners and losers. Just being there will not be enough.

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LANGUAGE ISSUES IN MULTINATIONAL MANAGEMENT

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In today's world of globalization, many firms operate internationally. When doing business across national borders, people are confronted with language and cultural differences. Language and culture are closely intertwined. Each language is a window into a specific view of life and a general frame of reference that is culturally bound to its speakers. Thus, learning a foreign language offers a way of understanding and appreciating a new culture. From a language perspective, there are homogeneous and heterogeneous nation states in the world with several official or major languages in use such as Belgium, Finland, or India. For speakers of minority languages such as Swedish-speaking Finns, for example, language tends to be the basis of personal identity. However, instead of analyzing language at the level of nations, this chapter examines this issue in the context of the multinational corporation.

There are many definitions of what constitutes a multinational corporation. A common view is that a multinational corporation is a large firm headquartered in one country but with subsidiaries in a number of other countries. It actively manages these subsidiary operations, which are an integral part of the company both strategically and organizationally. In the light of this general definition, it is clear that some firms will be more multinational than others. The degree of multinationality may be a function of the number and size of foreign subsidiaries, the number of countries in which the firm has subsidiaries, the proportion of assets, revenue, income, or employment accounted for by its foreign subsidiaries, the range of activities that foreign subsidiaries are responsible for (sales, marketing, production, research and development, etc.), and the degree to which top managers

represent different nationalities and have personally internationalized themselves. Moreover, the ownership base of the multinational corporation may be international in its profile.

Compared to a domestic firm, a multinational corporation consists of headquarters and subsidiary units, which are located in different national, cultural, and language environments. While a domestic firm in a large country may face regional or even ethnic differences in headquarters-subsidiary relationships, the differences the multinational corporation experiences at the international level are of another magnitude. Consider the following example. A Finnish engineering company, Kone Corporation, headquartered in Finland, sources and produces some of its components and elevators in China, designs and manufactures particular elevator types in Italy, carries out research and development in Finland and the United States, and generates sales of elevators, escalators, and automatic doors in a number of countries worldwide. For the Finnish staff, creating and maintaining relationships with subsidiaries in China is particularly challenging due to the geographical distance, different time zones, and cultural and language barriers. Thus, compared to a domestic firm, the organizational context in which headquarters-subsidiary and intersubsidiary relationships are embedded is simultaneously multinational, multicultural, and multilingual.

As the example of Kone Corporation illustrates, multinational corporations often organize their foreign operations as a network of subsidiary units that are geographically scattered across many countries and continents but closely interconnected through flows of components, products,

people, and information. The lifeblood of such a global network is communication, and language is the principal means of communication. Despite the wide use of English in international business activities, the reality of the multinational corporation is far from monolingual. Thus, adopting an English-only approach is not a viable solution for top management of the multinational corporation. Indeed, language diversity characterizes the daily operations of these large firms, and knowledge of foreign languages is an important personal asset for both headquarters and subsidiary staff. The effects of foreign language competence on individuals in terms of careers, job performance, and social exclusion/inclusion at the workplace, for example, will be discussed later in this chapter. Moreover, the broader organizational effects on the integration of acquired units will also be examined. Future managers need to be aware of the impact of language on multinational management. Having such an awareness is far from being illusory or diminishing, because the impact of language persists.

Until fairly recently, language as a separate variable has gained very limited attention in the field of international management in general. This is because language, if considered at all, is often subsumed into the broader concept of culture. The present chapter aims to examine language issues in multinational corporations and argues that an English-only approach is inadequate to manage what is a complex and evolving enterprise. The discussion centers on the inner workings and internal relationships of the multinational corporation rather than on external contacts with suppliers, customers, and competitors. More specifically, the chapter focuses on why language matters in managing the multinational corporation in the 21st century and provides some solutions as to how language challenges may be resolved.

The remainder of this chapter is organized as follows. First, the limits of an English-only approach to managing the multinational corporation are discussed. Second, the meaning of language and language diversity is explained and situated in the organizational context of the multinational corporation. Inevitably, given that language skills reside in individuals, the focus is on managing people. The effect of language on individual careers and informal, personal communication networks are examined. Moreover, the role of language in foreign subsidiary management is explained. Also, the advantages and disadvantages of machine translation are assessed. In the concluding sections, future directions of the field are presented with a summary of the main arguments made in the chapter. Throughout the chapter, a language perspective on multinational management is explicitly adopted.

WHY IS SPEAKING ENGLISH NOT ENOUGH?

It is commonly argued, particularly by those from English-speaking backgrounds, that language is a peripheral issue

in multinational management. Since English has become the conduit of international business, language is not regarded as a problem or, at best, its importance is seen to decline due to the forces of globalization. Building on previous research by the author and her Australian colleagues (Marschan-Piekkari, Welch, & Welch, 1999a, 1999b; Welch, Welch, & Marschan-Piekkari, 2001), this chapter presents a contradictory view by introducing a set of arguments as to why language still matters and why multinational corporations in the 21st century cannot be managed by an English-only approach. Consider the following arguments.

First, the wide use of English in international business encounters has not yet rendered the corporate world monolingual. Research by Marschan-Piekkari et al. (1999a) shows that staff in multinational corporations often operate at the interface between several languages including those of the home country, the common corporate language, and the various subsidiary languages. While many multinational corporations adopt English as the common corporate language, English is not necessarily an overruling language in in-house communication but is used more generally as an intermediary language between various parallel subsidiary or headquarters languages. For example, once documents in English arrive at subsidiaries, they are likely to be translated into the respective local languages. Fluency in English among subsidiary staff (as well as headquarters staff) is likely to vary, as staff members may revert to one or more other languages alongside English when engaging in international communication. In particular, much of the informal communication is likely to occur in multiple languages, as will be discussed later in the chapter.

Second, the rise of new economic powers such as China (see, e.g., Akoorie & Scott-Kennel, 2005) means an inevitable rise in the importance and use of the Chinese language(s) as more firms enter China and Chinese firms expand abroad. The acquisition of the personal computer division of IBM by Lenovo, China's largest personal computer manufacturer, is a case in point. Overall, the current and anticipated role of China in the world economy is also reflected in the increasing demand for multilingual Web sites (including Mandarin) on the Internet. Thus, language diversity is likely to characterize international business activities also in the future.

Third, while English as the common working language has facilitated international exchanges, it has also introduced communication challenges of a different kind. As Henderson (2005) explains based on her study of international management teams, the use of English may create a false impression that the parties engaged in the communication share the same context and make the same interpretation. In fact, she notes that members of the management team continue to use diverse frames of reference derived from their respective native tongues. From this perspective, subtle communication differences may be bypassed unnoticed when parties are forced to operate in English as a second language.

Fourth, it is difficult to engage in social interaction and develop close personal relationships using interpreters, translators, or automatic translation software. While these media have a valid place in facilitating certain types of international communication, they are not “a cure for all ills” in international communication. When confronted with the language barrier, a common response is to regard it as merely a technical problem that can be readily addressed through appropriate language aids. Yet, it is useful to note that translation is not the same as personal communication, which is often essential when exchanging complex information building on trust. There is also the question of security of commercial-in-confidence material, as well as the problem that technical information may be inaccurately translated (Welch, Welch, & Piekkari, 2006).

Fifth, hiring employees with the requisite foreign language skills and/or providing language training is just another way of seemingly removing the language problem. It takes substantial time for a person to reach a level of operational fluency in another language, though the actual amount of time will vary depending on each individual’s aptitude and motivation to learn. Firms face questions of whether to invest in the training of existing staff in the desired foreign language or whether to hire new staff with the appropriate language skills, assuming that such employees are readily available. It is worth bearing in mind that there are considerable national differences in terms of foreign-language training at schools. For example, in Scandinavia and the Netherlands, it is common that young people speak more than three languages alongside their native tongues. This stands in sharp contrast to the situation in many Anglo-Saxon countries. Either way, the company faces additional costs as well as the time constraint in achieving the necessary skills base (Welch et al. 2006).

Sixth, despite the fact that English has become the main vehicle of professional management education originating from the United States in the form of popular MBA programs (Tietze, 2004) and transformed corporate elites into an English-speaking group, personnel at lower organizational levels seldom possess the language skills and vocabulary to effectively operate in the workplace. For example, the common corporate language of the new, enlarged Lenovo previously mentioned is English. The senior Chinese executives of the company are comfortable operating in English, but not all of their subordinates are fluent. In addition, hardly anyone from the IBM side speaks Mandarin, which renders the challenge facing the merging company considerable. Thus, international communication in several languages is particularly important at organizational levels below top and middle management.

The arguments just presented paint a picture of a multilingual corporation in which speaking English is not enough. The following section goes deeper into the concept of language diversity and discusses it in the context of the multinational corporation.

Language Diversity in the Multinational Corporation

Being headquartered in one country and having foreign subsidiary operations in a number of other countries renders the multinational corporation multilingual almost by definition (Barner-Rasmussen & Björkman, 2007). From a language perspective, the multinational corporation is likely to have a parent country language, a common corporate language, and a range of host country languages used by foreign subsidiary staff. While for companies internationalizing from English-speaking countries the parent country language and the common corporate language tend to be the same, the situation for the German-based Siemens Corporation is more complex. Siemens uses predominantly German and English in its corporate communication (Fredriksson, Barner-Rasmussen, & Piekkari, 2006). It is a globally operating electronics and electrical-engineering company with some 475,000 employees and a presence in over 190 countries. Siemens was ranked 28th on the Fortune Global 500 list in 2007 and 22nd in 2006 (“Fortune Global 500 in 2007”, 2007). Most of the employees are located in Germany (34%) and in the rest of Europe (27%). Top management in Siemens tends to have strong language skills in at least these two key languages. Thus, German as the parent country language of Siemens is an additional source of internal language diversity.

In an attempt to manage internal language diversity and overcome it, several multinational corporations such as General Electric, Nokia, and Electrolux have adopted English as a common corporate language to facilitate in-house communication. This decision, however, which often falls on English, does not in itself resolve the language diversity associated with daily operations of the multinational corporation. First, the level of proficiency in the common corporate language is likely to vary resulting in different kinds of “Englishes” and causing comprehension problems (Charles & Marschan-Piekkari, 2002). For example, in their study of Japanese-owned subsidiaries in Scotland, Wright, Kumagai, and Bonney (2001) identified a specific form of everyday spoken language, “broken English” or “pidgin English,” which the Scottish personnel used when communicating with the Japanese management. Moreover, even native speakers of English may struggle with strong Irish, Scottish, or Northern English accents. Second, lower level employees in foreign subsidiaries are inclined to speak only their local language. Despite the use of a common corporate language, international communication between units of the firm is frequently carried out in a mixture of languages.

Multinational corporations are likely to follow different language strategies. While some multinational corporations may choose one common corporate language and prioritize it in their internal communication, other companies may consciously or unconsciously avoid making this decision. For example, Scandinavian Airlines (SAS), which is a

pan-Scandinavian organization originating from Sweden, Denmark, and Norway, did not formally appoint a common corporate language partly due to an attempt to maintain the power balance between the three nations (Bruntse, 2003). Alongside English, Scandinavian languages were extensively used within SAS, which was characteristic for its internal communication. In the Siemens case, neither German nor English held unambiguously the position of a common corporate language although there was a strong trend of convergence toward English in many parts of the organization. One may speculate that, in order not to provoke emotional reactions from either the “German” or the “non-German” parts of Siemens, the issue of a common corporate language was intentionally left ambiguous and allowed to solve itself in an emergent manner, inviting different parties to make their own interpretations (Fredriksson et al., 2006).

Furthermore, the internal communication in multinational corporations is colored by “company speak” and professional jargon (Welch, Welch, & Piekkari, 2005). “Company speak” refers to acronyms, special terms, and abbreviations that are specific to the company. For example, General Electric uses abbreviations such as N-1 and N-2 to indicate the person’s status in the organizational hierarchy. Newly recruited staff may easily find themselves excluded from communication exchanges and social interaction because they do not master this form of language. On the other hand, once a person learns to master the professional jargon associated with the job, it facilitates communication. For example, engineers, who have similar professional training worldwide and who therefore share a common terminology, belong to the same professional community. They all speak “the same language” when it comes to their jobs. Although these engineers may be located in different foreign subsidiaries of the multinational corporations and speak different mother tongues, they are still likely to communicate with relative ease.

Thus, language diversity stems from the organizational and professional context of the multinational corporation, which is complex, heterogeneous, and geographically scattered.

Language and Careers

The requirements for foreign-language competence have been increasing during the last few years due to several reasons. As multinational corporations have introduced network structures and encouraged direct communication between foreign subsidiaries, there is a growing need to use foreign languages in the daily work. This applies not only to the top echelons of the organization but also further down the hierarchy, “democratizing” and demystifying international communication (Charles & Marschan-Piekkari, 2002). In practice, this means that the responsibilities of managers and employees, who are based nationally, are

also likely to entail international elements of working and communicating across borders. At the same time, a growing number of managers and specialists physically relocate on long-term or short-term assignments or travel extensively abroad in order to carry out their work responsibilities.

Foreign language competence is likely to influence employees’ chances of advancing their careers within the multinational corporation. Some multinational corporations value foreign-language competence to the extent that it is used as an explicit criterion in recruitment and promotion decisions. For example, language ability is an important aspect of selecting expatriates for foreign assignments and in evaluating expatriate performance. More specifically, Dowling and Welch (2004) refer to the expatriate’s skills in the local language of the host country as well as in the common corporate language of the multinational corporation. In many recruitment and selection decisions, however, more emphasis tends to be placed on professional competence rather than language competence. Overall, gaining foreign work experience through expatriate postings may be regarded as a “must” for somebody who aims to climb up the corporate ladder.

The effects of foreign-language competence on career paths may take various forms. As discussed previously, many multinational corporations introduce a common corporate language to facilitate internal communication. Some groups of existing employees will master this language while others will need to decide whether to invest the time and energy in order to learn this language. For outsiders, the choice of the common corporate language may also shape the company image among potential recruits in terms of its attractiveness as a potential employer. Once a common corporate language is in place, it becomes a requirement for admittance to corporate training and management-development programs, potential international assignments, and promotion thus affecting individual career opportunities (Marschan-Piekkari et al. 1999b). For example, in a study of a Finnish-Swedish merger, Swedish was introduced as the common corporate language of the merged organization. It was found that the Swedish language operated as a “glass ceiling” effectively excluding non-Swedish-speaking individuals from career advancement (Piekkari, Vaara, Tienari, & Säntti, 2005).

Research on Japanese-owned subsidiaries in different parts of the world provides similar findings (e.g., Wright et al. 2001). In Japanese companies, senior positions are filled mostly with Japanese nationals, rendering the Japanese language a significant source of power. In a similar vein, the Japanese language creates a “glass ceiling” restricting the upward mobility of non-Japanese staff and making them pursue different careers. This may mean that particular nationalities or groups of employees are preferred over others resulting in selective recruitment and promotion practices. However, with the increasing degree of internationalization and diversification of personnel working for multinational

corporations, frequent calls for equal opportunity are made. Thus, the meaning and interpretation of equal opportunity should also take into account the possibilities of representatives from different nationalities and language groups advancing in their careers.

At international workplaces, foreign-language competence also affects perceptions of professional competence and identity. For example, after the introduction of Swedish as the common corporate language of the Finnish-Swedish merger, many Finns had to operate professionally without adequate levels of proficiency in the common corporate language. Consequently, these otherwise capable and useful employees appeared unintelligent in their encounters with the Swedes: in short, they felt that speaking Swedish lowered their IQ. The Finns often remained silent although professionalism would have required active participation. In a way, their professional competence was hidden behind the language barrier and they seemed to be underperforming (Piekkari et al. 2005).

In sum, the introduction of a common corporate language may influence individual career paths through self-selection as well as through top-management measures to explicitly move or rotate staff with the purpose of developing a better fit between foreign-language requirements of the job and individual competences.

Language-Based Communication Networks

While language issues are likely to affect individual careers in several ways, they also shape personal communication networks by connecting people who share a common language. These personal communication networks may be used for company purposes as well as for personal purposes in order to advance one's own career beyond the boundaries of the firm.

An individual who is competent in key languages of the multinational corporation may have more opportunity to gain a strategically important position beyond his or her formal, hierarchical status than a colleague who lacks this capability (Marschan, Welch, & Welch, 1997). Marschan-Piekkari et al. (1999a) have termed these individuals "language nodes." They are comfortable operating across several language interfaces such as the subsidiary language used in the host country, the common corporate language and the parent-country language. These so-called language nodes communicate, often informally, with colleagues in other subsidiaries and headquarters units and operate as intermediaries in information exchanges. This nodal position is likely to contribute both to the quality and quantity of the personal communication networks. For example, a Finnish engineer working for a Finnish-owned subsidiary in Mexico of Kone Corporation was competent in Spanish (subsidiary language), English (common corporate language), and Finnish (parent-country language). Given his long tenure with the company, he was also proficient in the "company speak." His language skills contributed to his ability to

communicate with local colleagues in the Mexican subsidiary, staff in other Spanish-speaking units as well as with Finnish- and English-speaking personnel. Not surprisingly, he occupied an important position in the internal communication network of the subsidiary.

One explanation for the emergence of language-based communication is interpersonal similarity (Mäkelä, Kalla, & Piekkari, 2007). People have a tendency to interact with others whom they perceive as similar and a shared language is a strong factor facilitating such interaction. On the other hand, language is also a powerful mechanism for social exclusion and a divider between social groups. For example, subsidiary managers often find themselves socially excluded when employees at Finnish headquarters revert to their native tongue and speak their "secret language" during international-management meetings. Similarly, expatriates, who are sent on foreign assignments to work for one of the subsidiaries abroad, will miss the intricacies and nuances of the more formal communication that occurs in the office setting if they do not speak the local language.

On the organizational level, personal communication networks may have an aggregate effect of forming language-based clusters (Mäkelä et al. 2007). In other words, similar people have a tendency to flock together, thus creating informal clusters such as the Germanic, Anglo, Latin, and the Scandinavian clusters within the multinational corporation. Such informal clusters are likely to emerge even though English is used as the common corporate language within the firm. Members of the Germanic cluster, for example, readily exchange information and knowledge with each other in German. The exchanges are likely to flow better within clusters (in terms of quantity, quality, and speed) rather than between clusters such as the Germanic and the Anglo cluster where complete communication blockages may exist. Creating and maintaining informal, personal relationships driven by a common language is widely used as a mechanism to overcome the language barrier. The power of such informal connecting points between people in different parts of the multinational corporation has serious implications for how to manage the entire enterprise and its foreign subsidiaries.

Foreign Subsidiary Management

Foreign subsidiaries are part of the multinational corporation through ownership ties. Some foreign subsidiaries may enjoy highly autonomous and independent positions within the firm while others may be more tightly managed and controlled. The management task to integrate, coordinate, and control foreign subsidiaries involves a great deal of communication between headquarters and the subsidiaries, and it is therefore affected by language considerations. For example, building and spreading shared practices across the subsidiary network, introducing a new organizational structure with reporting lines, agreeing upon budgetary controls, and submitting monthly reports all require consultation

and discussion between headquarters and the subsidiaries. The language competence of the managers involved is a power resource with which to resist or negotiate the use of control and coordination mechanisms to manage foreign subsidiaries.

Previous research has shown that foreign subsidiaries are often managed and controlled in linguistically constrained environments. For example, case studies of Kone Elevators and Escalators show that control efforts were targeted at a large number of foreign subsidiaries whose employees were not native speakers of the common corporate language, English, and whose level of competence was low (Marschan-Piekkari et al. 1999a, 1999b). Furthermore, the experience of a Danish company with two subsidiaries (about 130 employees) in France illustrates how one single person at headquarters, a French-speaking Dane, acted as a conduit and connector in the communication and control processes with the French units (Andersen & Rasmussen, 2004). In another study, it was found that language barriers reduced the number of top-management visits to foreign units whose language they did not master (Barner-Rasmussen, 2003). It is clear that the quality of the headquarters-subsidiary relationship in terms of trust and closeness is likely to suffer from the language barrier experienced by the parties involved.

Like individuals who may be socially excluded or included due to their language competence, foreign subsidiaries may see their role and task change partly due to language considerations. On the one hand, a foreign subsidiary lacking staff with the relevant language skills to communicate with headquarters may enjoy a relatively autonomous position vis-à-vis headquarters. In fact, language may provide a shield from the headquarters' scrutiny. On the other hand, the lack of language competence may result in feelings of isolation and marginalization among subsidiary staff (Welch et al. 2005). One mechanism to enhance connectivity across foreign subsidiaries is expatriate assignments.

Staff transfers are often used as a way to support communication and control of foreign subsidiaries. Sending a trusted employee from headquarters to a key position in a foreign subsidiary is likely to facilitate communication between the units involved. However, while headquarters-subsidiary communication is likely to improve, the language barrier may be introduced between the expatriate and the local subsidiary personnel. Consider an American expatriate who has been sent on foreign assignment from the U.S. headquarters to the subsidiary in Japan. Since the expatriate does not speak Japanese, English is used as the common language. Japanese managers have to accept it although they are disadvantaged by their low command of English. Some local managers may experience alienation and isolation because they are often left out or bypassed by the American expatriate or even by their local colleagues whose fluency in English is better than their own. In a similar vein, the American expatriate may find it very difficult

to break into the very close local communication networks due to limited skills in Japanese. As in the case of local Japanese staff, the challenges associated with the language barrier in international communication at the workplace are likely to cause frustration and a sense of peripherality. Thus, language training of expatriates should be a high priority in multinational corporations.

Taken together, language affects foreign subsidiary management in myriads of ways. In the following, the use of translators and other language aids will be discussed as partial solutions to the language barrier.

The Use of Translators and Machine Translation

Where a common language is not shared by individuals who need to communicate within the multinational corporation, some form of language aid or intermediary is required to perform the translation. These can be internal or external to the firm as well as personal or machine based. External, professional translators are often ineffective when technical and specialized languages are involved and in promotional situations in which an ability to respond rapidly is important (Welch et al. 2005). Working through a personal translator, however, has implications in terms of quality of communication, time spent on translation, costs of translation, and nature of the relationship between the communicating parties (Welch et al. 2001).

Recently, new solutions such as machine translation have been provided to solve various problems associated with international communication ("Tongues of the Web" 2002). With the emergence of multilingual Web sites, machine translation provides speedy translations. Machine translation, which is the use of computers to translate documents from one language to another automatically, works best when the system has been customized for a particular topic such as microbiology, aerospace, or particle physics. The commonly used professional vocabulary and technical terms are at the heart of the translation ("Tongues of the Web" 2002). Colloquial language, slang, and ungrammatical expressions, which are often used in ads, for example, are very hard to successfully translate by machine. However, the Internet has considerably changed the requirements for machine translation: users want speed, rather than quality, and are more likely to accept poor results ("Tongues of the Web" 2002).

A study on machine translation among different types of Finnish organizations aimed to map the corporate use of such a language-aid and collect experiences among test users regarding the quality of the translation service (Lindholm, Lindqvist, & Miettinen, 2006). The target organizations were categorized into three groups including (a) multinational corporations, (b) public organizations, and (c) importers. The findings show that the need for machine translation varied significantly across the three types of organizations with importers representing the group with highest demand for such services. Since this chapter deals

with multinational corporations, the potential for using machine translation services in this organizational context will be discussed. In addition, importers are a useful example for contrasting purposes and therefore will be briefly covered.

In the four multinational corporations studied, a considerable amount of English material was used. The average level of foreign-language competence was high among the headquarters staff who readily translated material from various languages and produced it in English, the common corporate language. Most of them had access to an electronic dictionary and used it in their daily work. Overall, employees working for multinational corporations are expected to be proficient in English although lower level employees may lack this capability. For them, a machine translation would be practical when translating e-mail messages and making sense of a text in a foreign language for personal use. The findings reveal that printed and public materials are often translated by external translation professionals with whom the company has collaborated with for many years. The test users in multinational corporations found that machine translation might be useful in producing a first draft of the text particularly in urgent situations. The study showed that the costs of translation were seldom systematically monitored and the persons interviewed did not have a clear understanding of the exact amount as these costs were often budgeted into the total costs of producing promotional material, for example. The authors conclude that wide adoption of machine translation would require an attitudinal change. Currently, employees are used to turning to a colleague who is competent in foreign languages rather than using computers for translation. Such practices may hide the true need and potential for machine translation (Lindholm et al. 2006).

In contrast to multinational corporations, importers are often small- or medium-sized enterprises that tend to lack specialized staff with the necessary language skills. Since using external professional translators is expensive, machine translation offers an economical alternative for translating package information, user instructions, manuals, ads, and so on. The study shows that importers often faced an urgent need to have a text translated. However, one of the challenges associated with machine translation is the lack of contextual knowledge. Needless to say, the quality of user manuals and instructions, for example, is highest in the original language. During the course of translation between multiple languages, some localization takes place that a machine does not recognize. Once a text has been translated by a machine, it is difficult and time consuming to correct it (Lindholm et al. 2006).

Interestingly, the quality of machine translation has not improved very much during the past decades (“Tongues of the Web” 2002). It is useful to keep in mind that one language cannot be completely translated into another. For example, the word “bread” when translated does not convey meaning very well as the actual bread differs considerably from culture to culture. At best, machine translation is a useful aid to support international communication by

providing “rough-and-ready” translation. At the end of the day, however, it is often the personal relationships that play a vital role in ensuring that important information gets to the people who need it (Welch et al. 2005).

A different solution to translation hurdles is to minimize the use of words and utilize symbols instead. For example, the instruction manuals for assembling pieces of Ikea furniture often contain symbols, which are internationally well known. Also, drawings are frequently used to facilitate the transmission of the main message.

In short, language training, transfer, and placement of language-competent staff as well as the use of external, professional translators are potential measures to solve the language barrier, albeit expensive ones. Machine translation, in turn, is a much more economical alternative but the quality of the translation needs to be weighted against the purpose and urgency of communication.

Future Directions

As the globalization process unfolds, the need for staff with language and cultural competence grows all over the business world. While there will still be domestically oriented jobs and functions such as legal affairs, the effects of internationalization penetrate deeply into the structures and processes of the multinational corporation. Thus, the implications of the international business context are increasingly present when examining questions of, for example, careers and career management, gender and diversity issues, human resource management, and corporate culture. From a research and teaching perspective, this means more cross-fertilization between disciplines such as organizational behavior, strategic management, international business, and sociolinguistics.

SUMMARY

This chapter has focused on the question of why language matters in managing multinational corporations and how the language barrier can be overcome. Despite the dominant position of English as the main medium of international business communication, six arguments were presented to substantiate the view that a multinational corporation cannot be managed by an English-only approach. These arguments elaborated on, among other things, language diversity in the workplace, limits of translation equipment and language aids, lack of foreign language competence at organizational levels below top management, and the rise of new economic powers such as China. The notion of language diversity was further examined and grounded in the organizational context of the multinational corporation.

In answer to the question of why language matters, the effect of language on individual careers was discussed. Multinational corporations may reward individuals for investing in foreign language skills through recruitment, staffing, and promotion decisions as well as performance evaluation.

The introduction of a common corporate language may have an additional effect on careers by operating as a glass ceiling for those who lack the relevant language skills. At the same time, the choice of common corporate language may favor certain groups of staff who possess a language edge and therefore gain strategically important positions within the firm. Language skills also affect perceptions of professional competence and identity. Having to operate professionally in a language that one does not master seems to lower one's IQ.

The emergence of informal, personal communication networks driven by a common language is additional evidence of why language matters in multinational management. These networks are powerful, as they may last over many years and cut across time zones as well as geographical distance. A common language can be regarded as a factor of interpersonal similarity explaining why people tend to interact with others who are similar to themselves. Personal, language-based networks form clusters on the organizational levels grouping staff into, for example, Anglo, Latin, Germanic, or Scandinavian clusters. Within these clusters, members readily exchange information and knowledge while the nonmembers located outside the clusters may experience severe communication blockages. The creation and maintenance of personal communication networks that operate in a particular language is a mechanism to overcome barriers in international communication.

Moving from the individual level of analysis and clusters to subsidiaries, the effects of language on foreign subsidiary management are discussed. It is argued that control and coordination of foreign subsidiaries involves a great deal of communication across borders and is thus influenced by language considerations. Language competence of subsidiary staff can be viewed as part of the subsidiary's power base, which shapes the degree of subsidiary autonomy and its roles and tasks within the corporation. Language is one potential explanation for why some foreign subsidiaries are marginalized and remain in the periphery while others prosper and develop into core units of the firm.

Finally, the use of translators and machine translation is examined as a way of overcoming the language barrier. Multinational corporations are likely to use external, professional translators for printed material. It is acknowledged that while machine translation provides an economical and speedy translation of a text, the quality of the translation may suffer. However, when using the Internet and its many multilingual Web sites, for example, any translation may be better than none. This opens up new possibilities for machine translation, which might serve employees below top management with poor skills in English.

To conclude, in our modern way of life, most issues are measured and valued in quantitative terms. Therefore, a person's qualitative abilities such as foreign language skills or cultural knowledge may not necessarily be highly appreciated. However, in order to succeed and make a career in multinational corporations, students in business and management need to have an understanding of foreign lan-

guages and cultures. Showing awareness and appreciation of the other is the foundation for any international business activity.

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PART IV

SUSTAINABILITY AND THE NATURAL ENVIRONMENT: GREEN MANAGEMENT

TOWARD SUSTAINABLE ORGANIZATIONS FOR THE 21ST CENTURY

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The pursuit of sustainable development and the requirement to make our societies, economies, and systems of consumption and production more environmentally, socially, and economically sustainable will be the dominant challenge for management throughout the 21st century. Concern about the social and environmental impacts of business activity can be traced back throughout history. The use of regulation to limit the social and environmental impacts of business and to punish transgressors can be traced back more than 3,000 years to ancient Mesopotamia. More recently, a key business theme during the 20th century was the growing expectation that businesses should go beyond regulatory compliance in conducting their affairs to demonstrate corporate social responsibility.

During the 20th century, economic expansion was underpinned by two key elements. Philosophically, it was guided by a mind-set strongly rooted in neoclassical economics, which

1. tended to assume that the physical resources of the planet were unlimited and would not constrain growth;
2. did not recognize that there may be limits to the planet's ability to absorb waste and pollution;
3. equated an expansion in economic activity, usually measured as the total quantity of goods and services consumed in terms of gross domestic product (GDP), with concepts such as progress and development; and
4. treated many social and environmental costs as externalities, which meant that the costs of repairing environmental

or social damage associated with producing or consuming particular products were not reflected in the cost structures of producers or the prices that consumers ultimately paid. In theory, such externalities should be covered through the taxes raised from consumers and producers (among others) by governments. In practice, however, the voting preferences of consumers and the lobbying power of businesses have usually deterred governments from raising sufficient taxes to fully cover the unmet costs of economic activity.

From a practical perspective, the economic expansion of the 20th century was founded on the consumption of cheap and plentiful oil, but by the end of the century, two factors were becoming clear and widely (if not universally) accepted: (a) peak oil output will be reached within a matter of decades, and even if this were extended through new discoveries and technologies to exploit unconventional resources, the growing demand for oil from the large and rapidly industrializing economies of India and China will rapidly absorb new supplies; and (b) even if there were no oil supply problem, there is a need to address the “inconvenient truth” that consumption of fossil fuels and the resultant releases of carbon dioxide (CO₂) is leading to global warming and to climate change, which threatens the stability, prosperity, and security of societies throughout the world. Therefore, the “hardware” and economics of our production and consumption systems will need to evolve rapidly during the next century to cope with constrictions in oil supplies, higher energy prices, and the need to constrain emissions of CO₂ and other greenhouse gases (GHGs).

The conventional management mind-set that had dominated throughout the 20th century will also have to change during the 21st century. Much of the last century was typified by Milton Friedman's epithet that "the business of business is business," by an unquestioned primacy being accorded to the interests of stockholders, and by growth being the primary aim of most strategic managers (although profit maximization is often assumed to be the primary aim of management, studies suggest that the prestige, security, and financial rewards that accompany growth make it more attractive than profit maximization which benefits shareholders directly more than managers and can attract attention from predatory and acquisitive companies). With the benefits of growth that is not sustainable being called into question, and with demands for businesses to address the needs of a wider group of stakeholders and to adopt a broader range of social responsibilities, managers are having to change to respond to shifts in the priorities and expectations of society (Aburdene, 2007; Sharma & Starik, 2005).

During the latter part of the 20th century, there was a significant shift in attitudes toward conventional economic growth and the acceptability of its social and environmental impacts. During the 1960s, Rachel Carson's classic and best-selling book *Silent Spring* alerted the world to the hazards posed by the chemicals industry (particularly the uncontrolled use of pesticides) and gave impetus to the emerging "environmentalist" movement. In 1972, the Club of Rome published *Limits to Growth*, an analysis of economic trends and environmental resources that predicted the exhaustion of key resources within the lifetime of many of those who would read the book together with the overwhelming of the planet's capacity to absorb waste and pollution. Although some of these predictions proved to be overly pessimistic, this analysis created widespread acceptance that we lived within a physical planet with finite limits and not within an economic hyperspace of unlimited opportunities. The oil shocks of the 1970s also drove home the dependence of industrialized economies upon cheap oil.

The 1980s were marked by a number of serious environmental and social incidents involving businesses including the Exxon-Valdez oil spillage in Alaska's Prince William Sound, the lethal explosion at the Union Carbide chemical plant in Bhopal, the pollution of the Rhine following a fire at a Sandoz chemical plant, and nuclear disasters at Three Mile Island and Chernobyl. Scientific discoveries also demonstrated the impacts of industrialization through the discovery of the hole in the ozone layer caused by chlorofluorocarbons (CFCs), the increasing levels of pesticides found within food and water supplies, and the growing evidence of global warming caused by GHGs. These factors combined to create widespread public, media, and political concern about the safety of the products and production technologies that companies employed and the responsibility of the managers behind them. The last decade of the 20th century, therefore, was marked by growing concerns about the social and environmental impacts and responsibilities

of businesses. This was reflected in a number of initiatives including the International Chamber of Commerce's "Charter for Sustainable Development," the development of new certified social and environmental management schemes, and a growing use of sustainability indicators and social and environmental reporting by organizations.

THE PRINCIPLE OF SUSTAINABLE DEVELOPMENT

The concept of sustainable development (or sustainability) was articulated in the 1980 World Conservation Strategy in relation to the use of resources for development that provides real improvements in terms of the quality of human life, while also protecting the Earth's vitality and diversity. In 1987, this concept was further developed and widely disseminated through a report by the World Commission on Environment and Development (WCED, often referred to as the "Brundtland Commission," as it was chaired by Norwegian Prime Minister Gro Harlem Brundtland). This report provided the simple and memorable encapsulation of sustainable development as meeting "the needs of the present without compromising the ability of future generations to meet their needs" (WCED, 1987, p. 24). The report recognized the interdependencies between the physical environment, human social welfare, and economic activity and the need to ensure a balance between these three elements. Its vision of sustainable development was one that companies and politicians, as well as pressure groups, could endorse, and it provided a more constructive platform for debate than the arguments for and against "zero growth" that had preceded it.

The key components of the sustainability concept are the following:

1. *Equity* ensures a fairer distribution of the costs and benefits of economic development among different countries, regions, races, and age groups and between the sexes. Conventional economic development during the 20th century failed to reduce the challenge of global poverty and to close the gap between the richest and poorest nations. According to United Nations Development Program figures, by the turn of the century, the richest 20% of the global population within the industrialized nations were consuming 86% of global resources, while the poorest 20% of the global population shared a mere 1.4% of the planet's resources.
2. *Futurity* ensures that the needs of future generations of consumers, investors, workers, and citizens are protected and balanced against the needs of the current generation.
3. *Need*, particularly the needs of the global poor, is a key component. The World Bank estimates that around three billion people worldwide exist on less than \$2 per day.
4. *Environmental limits* means recognizing that there are limits to the planet's ability to provide our production and consumption systems with resources and to its ability to

absorb waste and pollution without impairing the quality of the environment and the services that it provides. Fishing provides an obvious example of an industry that has exceeded its environmental limits. An authoritative international study published during 2006 in the journal *Science* demonstrated that one third of existing global fisheries had “collapsed” and that the impact of current fishing practices on marine ecosystems would destroy the others by 2050.

5. *Global environmentalism* means recognizing that the environment is a holistic, dynamic, and vulnerable physical system. Over half of the global poor rely directly on “ecosystem services” for their survival, and the majority of their consumption and production activity exists outside the framework of the monetary economy and is therefore largely “invisible” from the perspective of conventional economic theory.

These aspects of the sustainability concept demonstrate what a different and challenging approach to development, economics, business, and management it represents. Conventional management thinking reflects principles of consumer sovereignty with little regard for the impacts of consumption on nonconsumers and the equity of the distribution of costs and benefits from economic activity. Although management disciplines such as strategic management encouraged a long-term perspective, this was in terms of years or perhaps decades rather than the multiple generations perspective of sustainability. The focus on needs and the global poor was also very different to the conventional business mind-set that generally aimed to satisfy the wants of those with the most disposable income (or who could afford to invest). Global environmentalism was also a different way of perceiving the planet as part of the business environment. Instead of considering the world in terms of geopolitical boundaries, sales territories, and the distances between producers and consumers, it means also considering the planet as a complex and dynamic set of interlocking physical systems with considerable potential to impact upon and disrupt business strategies (Staib & Staib, 2005).

The Brundtland definition of sustainability is deceptively simple, and in the 20 years since the report was published there have been a number of criticisms leveled at it, many alternative definitions proposed, and much debate about how any of them can be translated into a practical, political, and economic reality (see Gladwin, Kennelly, & Krause, 1995). One particular divide was between those promoting “hard” sustainability, which emphasized the need to sustain the environmental system by restraining economic activity, and those promoting “soft” sustainability, which involved responding to and managing environmental limits in order to sustain economic growth. A helpful perspective comes from systems theory, which encourages us to view the global environment, human society, and the economy within it as three interconnected systems. For any system,

its ultimate sustainability depends upon the system maintaining a stable state (or staying within a range of states) in which the inputs and outputs of the system are balanced out over time.

A simple but often overlooked truism relating to sustainability is that if a system is not sustainable, then it cannot be sustained. Unsustainable systems that fail to evolve or transform themselves toward a more sustainable state will be vulnerable to collapse or sudden dislocation, and typically the longer that change is resisted, the more severe the dislocation will be. In the 20 years post-Brundtland, the existing dominant social paradigm and the trajectory of social, economic, and technological development have proved remarkably resistant to significant changes. Although there have been certain improvements such as a reduction in global CFC emissions, there are a number of sources of concern, particularly the following:

- CO₂ emissions—Although fears about climate change have become a key policy topic in recent years, emissions continue to grow. According to the U.S. Department of Energy’s Oak Ridge National Laboratory, 2003 global CO₂ emissions linked to fossil fuel use reached an all-time high of an estimated 7,303 million metric tons of carbon, a 4.5% increase from 2002.
- Ecological footprints—This technique had been developed as a measure of the Earth’s productive capacity in terms of its availability (as a concept of “Earth Share”) and how it is being exploited (see Hart, 1997). The “eco-footprint” of humanity as a whole and of many individual countries is unsustainable and still rising. At the turn of the century, mankind’s eco-footprint exceeded the Earth’s sustainable productive capacity by some 20%.
- Growth of consumption within poorer countries—According to figures from the Goldman Sachs Group, per capita GDP in China is forecast to rise from US\$1,324 in 2005 to US\$4,965 in 2020, and in India from US\$559 to US\$1,622 in 2020 (increases of 375% and 290% respectively in per capita consumption growth within countries that are also experiencing rapid population expansion). The aspirations of these populations are typically to follow the development pattern and lifestyles of the Western industrialized economies. If their needs are met using the products and production technologies that have characterized the Western industrialized consumer lifestyle of recent decades, the social and environmental consequences will be profound.

The United Nation’s “Millennium Ecosystem Assessment,” conducted during the first 5 years of this century, provided a comprehensive audit of scientific evidence on ecosystem health. It showed that the unparalleled economic growth of the previous 50 years had

‘resulted in a substantial and largely irreversible loss in the diversity of life on Earth’ and that ‘gains in human well-being and economic development . . . have been achieved at growing

costs in the form of the degradation of many ecosystem services . . . and the exacerbation of poverty for some groups of people. These problems, unless addressed, will substantially diminish the benefits that future generations obtain from ecosystems'. (pp. 2, 5)

STRATEGIC MANAGEMENT AND SUSTAINABLE DEVELOPMENT

Before the 1980s, environmental issues were important for a relatively small selection of companies in industries like oil, chemicals, and automotive and were generally treated as operational matters concerning compliance and regulations within most companies. Similarly, the social responsibilities of a company were rarely discussed beyond generating wealth and respecting laws regarding contracts, employment, and health and safety. By the end of the 1980s, environmental and social issues had become part of the strategic agenda of a wide range of companies for a number of reasons:

- Incidents such as oil spills and chemical leaks demonstrated that poor environmental performance created risks that could endanger a company's existence.
- Shareholders and insurers began to take an interest in the environmental performance of companies in sensitive industries because of the risks involved. Expert handling of environmental and social issues and risks also became increasingly used as a proxy measure for a professional approach to management.
- Public concern about environmental issues was generating new environmentally and socially oriented market opportunities through demand for products such as organic foods, natural cleaning products, and fairly traded coffees. This demand was reflected in, and often stimulated by, the development of many new niche firms and brands such as Body Shop, Patagonia, and Ben & Jerry's. At the beginning of the new millennium, the total market for "LOHAS" (lifestyles of health and sustainability) involved 68 million consumers and was worth \$230 billion in the United States alone, according to the Center for Fair and Alternative Trade Studies at Colorado State University.
- Research demonstrated that workers were increasingly concerned about the environmental and social performance of their employers, and new graduates and many high-value employees were increasingly taking these factors into account in their career development decisions.

For the discipline of strategic management, there was an obvious synergy with sustainability. Strategic management aims to promote business survival by ensuring companies are well matched to their environment by making them more outward looking and future oriented and more systematic in responding to current and future external threats and opportunities. Sustainability principles also aim to ensure

that businesses stay matched to their external environment in a way that does not deplete it and that will allow them to remain in business indefinitely.

The response among corporate strategists to the environmental concern of the late 1980s and early 1990s tended to be relatively defensive and reactive, with an emphasis on the cost burden associated with responding to increasingly stringent environmental regulations. In 1995, an influential paper by Porter and van der Linde titled "Green and Competitive," published in *Harvard Business Review*, made a compelling case for a more proactive strategic approach to environmental issues. This paper used evidence from a number of industries (particularly the chemical industry) and companies to demonstrate that

- tougher environmental regulations could produce new market opportunities for companies in markets providing or supporting pollution abatement technologies or cleaner energy;
- environmental performance could create a source of differentiation for companies;
- the elimination of pollution and waste could be cost beneficial to companies since they represented a form of inefficiency within production systems; and
- the requirement to meet tough new environmental regulations frequently inspired companies to develop innovative new solutions and technologies that could create new opportunities or cost savings.

Porter and van der Linde's (1995) analysis provided authoritative support for the concept of "win-win" solutions that generated competitive advantage for businesses willing to address environmental issues proactively. This logic was further extended to the concept of the "triple bottom line" or "win-win-win" strategies that combined the delivery of profit with social and environmental improvements (Elkington, 2001). Connecting sustainability to enlightened self-interest in this way formed an attractive and palatable argument for businesses and policymakers alike, and became a cornerstone of the evolving debate about CSR.

Other forms of business opportunity were identified within the sustainability agenda. In social terms, the unserved needs of the 3 billion people living in relative poverty became recognized as a potential business opportunity as well as a social tragedy. The concept of innovative "bottom of the pyramid" business models promoted by C. K. Prahalad and others has emerged to deliver goods and services to poorer potential consumers. These can involve simplified versions of products, smaller and more affordable unit sizes, payment systems to improve affordability, and developing new channel structures to reach consumers living in poor areas.

The feasibility of win-win solutions was challenged by other writers who pointed to problems that early "green leaders" often faced in maintaining competitive advantage on the basis of environmental excellence. A number of

arguments were put forward about the limitations of the logic of win-win solutions, including the following:

- In some markets, the short-term cost of substantive improvements in long-term environmental performance would be prohibitive in the face of shareholder pressure for sustained profit performance.
- The win-win argument involved the generation of competitive advantage for individual companies, but in practice, many environmental challenges confronted entire industries and were likely to be solved only through collaborative actions. The first collaborative venture between all three U.S. auto giants of Ford, General Motors, and Chrysler came from a desire to develop low-emission vehicle technologies for the future.
- The argument that superior environmental performance can provide differentiation and competitive advantage relies on only certain companies seeking to lead on environmental excellence. A situation in which the most environmentally excellent companies design and market products only for the most environmentally concerned consumers is unlikely to deliver substantive progress toward sustainability. This will require the greening of mass markets and environmental excellence to become part of a firm's "license to operate" rather than an optional path to competitive advantage.
- The potential for unintended consequences from apparently win-win developments in the market could work against the overall aims of sustainability. For example, during 2006, in response to the growing demand for alternative fuels, many American farmers began selling their corn crop for ethanol production. This was exactly the sort of opportunity predicted by Porter and van der Linde (1995). However, it led to a shortage on the international corn market, which pushed up the prices of tortillas, the staple food for the poor within Mexico, by over 400%, dramatically impacting their quality of life and sparking widespread social protests. Similarly, bottom of the pyramid businesses, which aim to improve the quality of life for billions of the world's poor, could be counterproductive if they simply increase global consumption and contribute further to problems of waste and climate change. Such initiatives will ultimately only benefit poorer consumers if they are offset by reductions in material consumption among richer countries.

A study published by Arthur D. Little (Shelton, 1994) examined the long-term progress among early green market leaders and concluded that many of them had failed to sustain their advantage in the marketplace. The cause of such failures was typically rooted in a lack of compatibility between environmental strategies being championed within companies and other dimensions of the organizations. Once the easy "low-hanging fruit" that presented simple win-win benefits (e.g. through cost savings linked to energy efficiency improvements or reductions in packaging) environmental initiatives requiring substantive investment, radical innovations, or organizational changes tended to run into conflict with existing organizational cultures, pri-

orities, power balances, and vested interests. It was those companies whose environmental strategy was well integrated with the conventional strategic management process, framed in business terms that other managers could relate to and accommodated within (rather than grafted onto) the organization's structure that tended to succeed.

ORGANIZATIONAL DIMENSIONS OF SUSTAINABILITY

Creating more sustainable businesses (and other forms of organization) during the 21st century will require changes that go beyond technological innovations and new strategies to respond to the opportunities and threats created by pressing social and environmental issues (Laszlo, 2005). Scientific evidence demonstrates clearly that our current patterns of production and consumption are not sustainable, and there is little reason to assume that the technologies, institutions, values, and business models that generated so much unsustainable economic development during the 20th century should now be capable of delivering progress toward sustainability without radical change. From an organizational perspective, Shrivastava (1994) produced a groundbreaking critique of organizational theory from a sustainability perspective.

Most writers propose a set of evolutionary phases toward sustainability that corporations pass through (although not necessarily progressively since both "leapfrogging" and recidivism can occur and different parts of an organization can be at different stages at any point in time). For example, Dunphy, Griffiths, and Benn (2003), proposed the following stages:

1. *Rejection*—in which the maximization of profit or growth are seen as justification for the exploitation of human and natural resources, and attempts to constrain its activities for environmental or social reasons are opposed
2. *Nonresponsiveness*—a passive noninvolvement with (rather than active rejection of) social and environmental issues within organizational decision making
3. *Compliance*—a reaction to the risks of failing to meet minimum legal standards as a producer or employer
4. *Efficiency*—a proactive approach that recognizes the cost and efficiency benefits that can be accrued by instituting sustainability oriented policies and practices for human resources and the environment
5. *Strategic proactivity*—in which sustainability becomes an important part of a company's corporate strategy as it seeks to generate competitive advantage through advanced human resource strategies, an emphasis on "corporate citizenship" to build stakeholder support, and innovative and environmentally oriented products and/or production technologies
6. *The sustainable corporation*—in which the culture and leadership of the organization has internalized the idea of working toward a more sustainable world and is actively seeking

to balance traditional business objectives with values of ecological sustainability and wider human welfare

In practice, the transition between particular stages is often linked to changes such as the appointment of a new CEO, legislative changes, crisis-driven external stakeholder pressure, disruptive market changes, or the loss of internal champions or the failure of particular sustainability initiatives. Progress toward becoming a sustainable corporation will depend upon effective organizational change management processes and appropriate leadership (Dunphy et al., 2003).

Leadership

A consistent factor throughout the research concerning the effectiveness of social and environmental strategies within companies is the importance of supportive and effective leadership. Many of the most notable success stories in integrating sustainability principles into the culture and operations of both large and small businesses have been associated with strong and inspirational leaders.

An organization that has both reflected and shaped the response of business leadership to the sustainability challenge is the World Business Council for Sustainable Development (WBCSD). It emerged as part of the business response to the Rio Earth Summit of 1992, led by Swiss industrialist Stephan Schmidheiny, which initially involved a team of enlightened CEOs from some 50 companies. It evolved through merger with the World Industry Council for the Environment (WICE) in 1995 and established a permanent base in Geneva. The WBCSD promotes a vision of businesses that are committed to working with employees, their families, the local community, and society to improve the quality of life. The council tends to see market-based solutions rather than regulation as the answer to sustainability challenges and seeks progress through better information for consumers about the social and environmental effects of their choices and initiatives for poverty reduction

The development of more genuinely sustainable organizations for the 21st century will require a different form of leadership to that which typified success during the last century. Conventional theory on leadership and strategic management has been heavily influenced by the discipline of military science and the analogy between “the art of the general” (the original root of the word *strategy*) and the role of business leadership. For more sustainable organizations, other sources of inspiration for models of leadership may be required, and there have been suggestions based on orchestral conductors, top restaurant chefs, or tribal chieftains. A leader for the 21st century will need to have the ability to integrate and balance the needs of a wide variety of stakeholders; to work with competitors, non-governmental organizations (NGOs), policymakers, and communities to find solutions to sustainability challenges; and to actively promote standards of governance, account-

ability, and corporate social responsibility that go beyond anything companies were required to demonstrate during the last century. Leadership for the 21st century is likely to require more of the skills of the diplomat rather than those of the general.

Culture

Although external stakeholder pressure or regulation can prompt organizations to address sustainability issues, success in developing and implementing more sustainable strategies is highly dependent on the culture of the organization. Welford (2000) suggested six “shifts” that must occur in the nature of corporate cultures to make them more able to support sustainability, namely shifts in focus

1. from objects to relationships;
2. from parts to the whole;
3. from domination to partnership;
4. from structures to processes;
5. from individualism to integration; and
6. from growth to sustainability.

In the “Making Sustainability Mainstream in Business” study conducted by the Cambridge Programme for Industry, organizations including major businesses like Unilever, BT, B&Q, Electrolux, and HP Canada, major government departments and major NGOs including World Wildlife Fund (WWF) and the David Suzuki Foundation were studied to better understand how sustainability principles could be mainstreamed within organizations. The study identified 12 guiding principles for success:

1. *Leadership*—a champion of sustainability at the top of an organization is crucial for success
2. *Commitment*—gain commitment from every level of an organization
3. *Communication*—open and transparent communication to both internal and external audiences—celebrate success, admit mistakes and learn from them both
4. *Stakeholder engagement*—engage effectively and openly with all stakeholders
5. *Support network/partnerships*—make maximum use of supporting networks who can provide direction and assistance
6. *Development of business practices*—develop and build a business culture based around sustainability
7. *Reporting and measuring*—set specific targets, measure progress and report these results
8. *Provide resources*—commit resources for the best chance of success

9. *Rewards and recognition*—recognize and reward effective behavior to keep up the momentum
10. *Change the emphasis*—if something does not work or loses its impact, change the perspective
11. *Engage the whole organization*—have an integrated approach on how you engage the whole organization
12. *Impact analysis*—appreciate your impacts, understand the costs and benefits of solutions, and identify further opportunities

OPERATIONAL DIMENSIONS OF SUSTAINABILITY

Managers regularly consider their organizations as financial, technical, and social systems, but sustainability requires consideration from a physical systems perspective as well. Organizations require inputs of energy and material, and produce material outputs in the form of products (along with by-products, waste, and pollution). Sustainability requires managers to consider these inputs and outputs, and the material efficiency of the organization's processes from a physical as well as an economic perspective.

Industrial Ecology

The initial response among business organizations to growing evidence of unsustainable environmental (and social) impacts within our production and consumption systems, has been to make evolutionary changes to ameliorate the problems. Catalytic converters to reduce automobile emissions, the use of recycled packaging, or the reduced use of products like lead or harmful solvents in industrial processes are simple examples. Such changes do not alter the basic nature of our production and consumption systems, which remain very linear (crudely involving the extraction of "stuff" from the ground and its processing into useful products, which are later buried back in the ground as waste). Human production systems are also very inefficient in their use of energy and materials compared to natural systems, which are generally cyclical and have evolved so that the output of any process becomes the input of another (Lovins, Lovins, & Hawken, 1999). The need to make our industrial systems more like nature in their material efficiency led to the development of the concept of industrial ecology (or "industrial metabolism"), which views our industrial system as a complex web of interconnected production units that are linked by flows of energy and material. To make the system more sustainable, the challenge is to reduce the losses of energy and material (as waste) by creating closed material and energy loops.

A number of key concepts have emerged from an industrial ecology perspective on business. One is that of "Factor X" improvements in the material efficiency of our production and consumption systems, in which the benefits of

those systems remain constant while reducing the material and energy inputs into the system by a particular factor (represented by the "X"). A number of authors and organizations have promoted production approaches involving "Factor 4" or "Factor 10" improvements in material efficiency to achieve greater sustainability. Another key concept is that of "industrial symbiosis," in which businesses are colocated (through industrial eco-parks) or otherwise connected so that the outputs of one set of production processes become the inputs of another. The blueprint for this type of initiative was established at Kalundborg in Denmark in which an oil refinery, a power station, a gypsum board manufacturer, and a pharmaceutical company together with the city itself combined to share water, electricity, steam, and residues. Within the Kalundborg eco-park waste residues were transformed into valuable by-products accounting for 2.9 million tons of material per year, water consumption was reduced by a quarter, and 5,000 homes received heating.

Sustainable Supply Chain Management

Many of the environmental and social impacts linked to an organization will effectively be embedded because of the activities of a range of suppliers along a business's supply chain. At the beginning of the new millennium, companies such as Gap and Nike became the target of high-profile campaigns about the working conditions, not of their own employees, but of the workers of their suppliers in Southeast Asia and South America. This prompted many companies throughout the apparel and sportswear industry to examine their own supply chains to ensure that the standards applied within them met the expectations of stakeholders, rather than relying on compliance with local regulations.

The purchasing function provides important opportunities for companies to demonstrate their own commitment to sustainability by choosing suppliers with strong social and environmental credentials (Cannon, 2006). It also allows public sector organizations to put their own considerable purchasing power behind strategies to encourage the development of sustainable technologies, companies, and markets. In many countries, public procurement services are taking a lead in developing new technical specifications and standards.

Successful sustainable purchasing strategies depend on full and accurate information about the environmental and social impacts of particular materials, processes, and components. In many cases, such information is lacking, but with the increasing application of Environmental Management Schemes, eco-labeling schemes, and socioenvironmental accounting it is becoming easier for companies to assess and validate their suppliers' performance.

Sustainable Operations Management

Historically, the emphasis in business has been to maximize the production outputs of business and to control and

capture resultant waste and pollution through “end-of-pipe” technologies, to be buried or released to air or water within legal constraints. The famous “Pollution Prevention Pays” (3P) program implemented by 3M pioneered an alternative approach that sought to design out pollution at source and thereby eliminate the costs associated with pollution control measures. The scheme was introduced to achieve “a better environment, conserved resources, improved technologies and reduced costs” and celebrated its 30th anniversary in 2005. By this time, it had resulted in more than 6,000 employee-driven projects, which prevented the generation of more than 2.5 billion pounds (weight) of pollution and produced savings (based on first year savings alone) of over \$1 billion. More recently, programs introduced by Dupont and BP to reduce GHG emissions created 65% and 16% reductions respectively, with cost savings of \$2 billion and \$650 million.

The types of operational improvements that can generate benefits in costs and eco-efficiency improvements, and that are championed by organizations such as WBCSD, involve several distinct strategies including the following:

- *Dematerialization*—reductions in the material intensity of goods and services, and seeking to substitute knowledge flows for material flows
- *Production loop closure*—working continuously toward closed-loop production systems and zero-waste factories wherein every output is returned to natural systems as a nutrient or becomes an input in the manufacture of another product; this involves reductions of toxic emissions, enhancements of material recyclability, and the more sustainable use of renewable products
- *Service extension*—offering products that have extended durability or products that can be leased rather than purchased
- *Functional extension*—design and manufacture of products with new and enhanced functionalities and services, particularly to increase the service intensity of products

Such initiatives are often being promoted by adopting a product stewardship focus that seeks to minimize environmental impacts associated with the entire life cycle of a product or service, including design and disposal (Hart, 1997).

Sustainable Logistics and Distribution Management

In a globalized economy, the distances traveled by both raw materials and finished products account for a considerable proportion of their environmental impact. In addition to the carbon emissions linked to the movement of goods, the transit packaging used for distribution, the operation of distribution facilities such as warehouses, and any damage or wastage that occurs during distribution all contribute to the environmental impacts of products.

Environmental concerns have made end-of-life (or in the cases of simply unfashionable technologies, end-of-use)

products a major issue in industries such as electronics, automotive, batteries, and packaging. In many countries, extended producer responsibility regulations are requiring manufacturers to either undertake or fund the reclamation and reuse or responsible disposal of old products (e.g., the European Union’s directives on end-of-life vehicles and waste electronics and electrical equipment). The requirement to reverse the flow of products within supply chains to create supply loops poses considerable challenges to companies in terms of supply chain structures, product design decisions, altered product costs and pricing, and the need for appropriate strategies and facilities to handle product recovery, recycling, or remanufacture. Such systems require a very different perspective from companies in which old products become a source of potential value and in which previous customers become potential suppliers of old products.

MANAGEMENT DIMENSIONS OF SUSTAINABILITY

Management and Information Systems

Managing the social and environmental impacts of companies more effectively requires a great deal of additional information to be gathered and used and has led to a growth in environmental and social auditing within organizations. Environmental Management Systems (EMS) are administrative tools that assess the environmental impact of an organization’s operations and provide a framework for managing environmental responsibilities. EMS systems aim to ensure regulatory compliance, generate continuous improvement in the management of environmental performance, and improve operational efficiency. The principles are closely aligned with total quality management (TQM), which has prompted many companies to tackle environmental performance by integrating it into existing quality processes to create total quality environmental management (TQEM). The two most widely recognized EMS schemes are the International Organization for Standardization’s (ISO) 14000 series, and the predominantly European Eco-Management and Audit Scheme (EMAS).

The ISO 14000 series family of standards for environmental management was established by the ISO between 1996 and 2001. They cover a wide range of aspects of environmental management including the implementation of environmental management systems, conducting environmental audits, evaluating environmental performance, conducting life cycle assessments, and environmental labeling and declarations. By the end of 2001, some 37,000 organizations across 112 countries were using management systems that complied with the ISO 14001 EMS requirements.

Five main elements are common to all EMS:

1. Identifying company impacts on the environment
2. Understanding current and future legal obligations

3. Developing plans for improvement
4. Assigning responsibility for implementation of plans
5. Periodic monitoring of performance

Sustainable Human Resources Management

Business sustainability is often associated with external environmentally oriented impacts of business. However, an important dimension of corporate sustainability is in terms of the management and development of a business's human resources (or preferably human capital since the term resources has overtones of exploitation). There are several important dimensions to the management of people from a sustainability perspective:

- *Providing human support for environmentally oriented strategies and systems*—successful implementation of initiatives such as EMS or ISO 14001 are highly dependent on factors such as top management support, environmental training, employee empowerment, teamwork, and rewards systems.
- *Recruitment and retention*—the market for skilled and qualified people is increasingly competitive, and there is a growing body of evidence that graduates and other skilled employees are increasingly influenced by the social and environmental performance of prospective employers.
- *Motivation and productivity*—research evidence demonstrates that motivation and productivity tend to be higher among employees who view their employers as socially and environmentally responsible. Involving employees in social and environmental initiatives through volunteering schemes has also been shown to have a positive impact on morale as well as allowing firms to make direct social and environmental contributions.
- *Work-life balance*—an emerging trend within industrialized economies is pressure on employers to allow employees to achieve a better balance between their working lives and their roles within families or communities. This can be achieved through policies such as flexible working hours, home working, maternity/paternity leave, and corporate child care provision.
- *Global supply chains*—in the global economy, it is increasingly common for production and other functions to be outsourced to companies in less industrialized nations that may have a weaker regulatory framework for the protection of workers' human rights and welfare. This can pose both ethical challenges (since workers in poor countries may prefer a job that fails to respect their rights and welfare properly to no job at all) and practical problems of auditing working conditions down supply chains.

Sustainable Accounting and Reporting

Sustainability has provided a range of challenges to the accounting function within organizations, and the account-

ing professions are involved in integrating sustainability principles into a number of areas of their work including (Institute of Chartered Accountants in England and Wales, 2004)

- the evaluation and management of potential social and environmental risks and the inclusion of social and environmental criteria into a company's reporting procedures to ensure that stockholders (or other stakeholders) are aware of relevant risks and efforts to address them;
- the development and implementation of codes within businesses on issues such as corporate governance, environmental compliance, and supply chain purchasing policies—the application of such codes usually requires the establishment of assurance and reporting systems and integration with existing corporate information systems;
- understanding the financial implications of government measures to promote corporate sustainability such as taxes, subsidies, and schemes such as permit trading; and
- the provision of information to respond to benchmarking initiatives.

As interest in the socioenvironmental performance of businesses has grown, so has the demand from stakeholders for social, ethical, and environmental disclosure (SEED). By 2001, one half of the global top 100 companies were publishing a global environmental and/or social report, although third-party verification of SEED was still comparatively rare. Many of these reports used one of a number of internationally recognized standards, systems, and guidelines being produced to assist companies in reporting for sustainability issues such as the Global Reporting Initiative (GRI) or the AA1000 Assurance Standards for CSR.

Sustainable Marketing

Marketing is central to the sustainability debate within business for a number of reasons:

- Marketing represents the interface between businesses and their customers and is responsible for monitoring customer wants and needs and for developing market offerings and strategies. The requirement to develop more closed-loop systems of production and consumption has also prompted the formation of new types of relationship with customers in order to be able to reclaim post-use product from them.
- In responding to customer demand for greener products, marketing managers play a key role in developing and specifying new products. Developing more eco-efficient products requires new design-for-environment principles such as reuse, recycling, material reduction, responsible materials choice, and sourcing and design for remanufacture to be integrated into new product development processes.
- For fast-moving consumer goods such as food, many of the key environmental impacts are accounted for by packaging and distribution, which are key marketing variables.

- Price is another key component of the marketing mix and in the quest to deliver more sustainable products, many costs that were previously marginalized as externalities will need to be bought within company costing and pricing structures. Alternative pricing methods based around use rather than purchase or on total cost of ownership may be required to improve material efficiency in many markets.
- In the light of measurable skepticism among consumers about the motivations and environmental credentials of companies seeking to market products as relatively sustainable, there is a considerable marketing communications challenge.

Although well placed to aid in the development of more sustainable companies, the mainstream marketing profession has often been relatively resistant to becoming more involved with the sustainability agenda. Partly this reflects conservatism and an unwillingness to make product changes that might endanger customer satisfaction and relationships, which is also linked to skepticism about whether explicit consumer concern about environmental and social issues will translate into actual changes in consumption behavior. Partly it also reflects wariness after a number of early green products failed due to technical shortcomings, a tendency to “overhype” their green credentials or through asking consumers to make too great a compromise in terms of cost or convenience (Ottman, Stafford, & Hartman, 2006).

CONCLUSIONS: PROGRESS TOWARD SUSTAINABLE BUSINESS

The 20th anniversary of the Brundtland Report falls during 2007, making it an appropriate moment to assess the progress made toward more sustainable organizations for the 21st century. In terms of attitudes, there has been considerable progress toward addressing sustainability concerns in the way that businesses are managed. At the 2002 Earth Summit at Johannesburg, one of the most significant developments was the extent to which partnerships between business and governments and NGOs were viewed as the solution to a wide range of social and environmental challenges. In terms of practice, the evolutionary changes to improve the ecological efficiency and social responsibility of organizations are laudable, but they fall well short of substantive progress toward sustainability (in the same way that there is a difference between a business reducing its losses and making a profit). The radical reengineering of production and consumption systems and the organizations within them, envisaged by those promoting business sustainability, has yet to become widespread in most industries.

Ultimately, sustainability is not an issue that needs to be integrated into management thinking and practice, sustainability represents a “paradigm shift” that will change the entire worldview of managers and the perspective from

which they view their organizations (Gladwin et al., 1995; Laszlo, 2005). This chapter has been written primarily from the perspective of business organizations, but the principles, if not all the processes, will be similar in public sector organizations. However, it is in business organizations that the challenge of adapting to the sustainability paradigm will be most important and most profound. As Elkington (2001) expressed it,

As we move into the third millennium, we are embarking on a global cultural revolution. Business, much more than governments or NGOs will be in the driving seat. This will be partly because of the widely recognized retreat of governments and partly because business will increasingly find itself with no option but to help co-evolve global governance systems appropriate to the 21st century. Paradoxically, this will not make the transition any easier for business people. Some will take to this new business environment like the proverbial ducks to water. But for many others, the transition will prove grueling, if not impossible. For others, performing against the “triple bottom line” will come to seem like second nature.

The concept of a “sustainable organization” is in many ways misleading because an organization of itself cannot generally be sustainable. Organizations form part of broader social and economic systems, which need to become oriented toward sustainability to create the opportunities for organizations to change and to make progress. This will require supportive changes in terms of the behavior of consumers, investors, and the media and to the nature of global trade and to the laws, political systems, and educational systems that shape the organizational environment.

One of Barry Commoner’s five rules of ecology is that “there is no such thing as a free lunch.” During the 21st century the bills for the unbridled economic growth humankind experienced during the last 100 years will arrive in the form of disruption caused by climate change and political tensions over resources including water, oil, and food. Organizations including businesses, governments, and NGOs will need to work in partnership to achieve the paradigm shift to place sustainability at the heart of organizational goals, values, cultures, leadership, and practices. Succeeding in this will affect every other dimension of contemporary management described in this handbook profoundly.

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- Why Do Firms Comply With Environmental Regulations? (26)
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- Environmental Supply Chain Management (28)
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WHY DO FIRMS COMPLY WITH ENVIRONMENTAL REGULATIONS?

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Why firms comply with environmental regulations is an important topic of inquiry for both government policy analysts and corporate officials interested in good internal management practices. Obviously, the government cares about compliance because it wants firms to reduce pollution. But the question about whether or not firms comply with environmental regulations is important to government policymakers for an even more subtle reason. For example, if the government imposes new, stricter environmental regulations on firms, emissions could actually get worse, not better, if the new regulations are not complied with. That is, when projecting the impact of a newly proposed regulation on the environment, policymakers must take into account both the “full compliance” scenario as well as the expected compliance rate. Similarly, from a company’s perspective, even if corporate policy is to strictly comply with all government regulations, some facility managers might ignore that directive as they try to reduce costs or maximize profits. Thus, company officials need to fully understand all of the incentives within their organization if they want to achieve a certain level of compliance within their firm. In addition, some violations of environmental regulations are unavoidable and/or unintentional. Thus, even if a company “intends” to comply, violations might occur and the company might be at risk for government-imposed penalties and bad publicity.

While the evidence is actually rather spotty—and there are some who dispute the figures—the U.S. Environmental Protection Agency (EPA) has estimated compliance rates in the United States to be as high as 80%–90% of all firms. Yet,

scholars who have studied firm compliance with environmental regulations have noted that the penalty for noncompliance is oftentimes very small—only a few thousand dollars on average. When the penalty for noncompliance is only a fraction of the cost of compliance itself, one wonders why firms would comply at all! Why don’t firms simply disobey the law and save millions of dollars in compliance costs and instead pay a few thousand dollars in penalties? This chapter examines both the theory and evidence of why firms comply with environmental regulations, with the goal of gaining a deeper understanding of both government policy as well as the managerial implications for ensuring that firms are acting in both their own—and society’s—best interest.

WHAT DOES “COMPLIANCE” WITH ENVIRONMENTAL REGULATIONS MEAN?

Environmental regulations are complex and multidimensional. They may cover media such as air, water, waste, noise, as well as toxic substances that enter into supply channels. Environmental rules literally take up thousands of pages of government documents. The scope of regulation is all-encompassing. For a manufacturing facility, compliance might include building certain pollution-control equipment, adhering to limits on pollution discharges, limiting recordkeeping and technical storage, training and staffing requirements, and auditing procedures. A complex facility might have hundreds of regulated pollution sources and permits that consume hundreds of pages. In addition, it is not

always clear up front whether certain actions are required. Resolving these differences is often something that courts ultimately get involved with. Thus, in some cases, whether a firm is in compliance might ultimately be decided by a court as a judge interprets congressional mandates.

Adding to the complexity of the myriad of rules and technical engineering standards, firms must deal with multiple enforcement authorities. In the United States, much enforcement is delegated to state and local authorities. However, the EPA retains discretion to enforce when it is not satisfied with the effort of state or local officials. While this threat has only rarely been used, the fact that it is available to EPA presumably ensures that state and local authorities do not entirely shirk their enforcement duties. In the United States, private parties can also enforce many of the environmental laws through various legal mechanisms where they can not only compel firms to comply, but they can also be reimbursed for the cost of litigation. These private lawsuits are often initiated by public-interest law firms that are organized to enforce environmental regulations or other public interests. There are several reasons why governments might adopt this dual-enforcement approach. Private citizens who are directly affected by pollution might be better situated to detect environmental violations in their neighborhoods and can be good judges of whether or not they are concerned enough about this pollution to take some action. It is also possible that private enforcement is less costly as private enforcers are not subject to the inefficiencies of government bureaucracies. Finally, the government enforcement agency might simply lack the funds to adequately enforce, and instead would have to rely upon private enforcement agents to fill in the gaps. Despite these apparent benefits, private enforcement might also serve the less noble goal of enhancing private interests at the expense of public interests. Thus, private enforcers might simply be viewed as “bounty hunters” and could even force compliance beyond a level that is socially efficient.

Environmental compliance is never a “black or white” issue. For example, water pollution regulations in the United States generally require firms to obtain state-enforced permits that specify the maximum amount of pollutants allowed to be discharged on a daily basis (or some other time-variant measure). Other laws or regulations might require the installation of “best available technology” which would be open to varying interpretations depending upon the size or age of the facility. Other laws might require advance disclosure and testing of “new chemicals,” where there is some ambiguity of what a “new chemical” means. To see how difficult it might be to determine which firms are in or out of compliance, consider the typical water pollution permit. While the exact details vary by state and by industry, suppose a permit requires daily water samples and a facility is determined to be out of compliance if the average daily reading exceeds a certain figure over the entire month. In other words, it would be allowable to be over the limit on some days, but over the entire month the average must be below the permitted level. Under a system like

this, it is possible that two identical facilities with identical pollution-control programs could have different average readings if they happen to measure at different times of the day, during different production schedules, or so on. Thus, it is entirely possible that one of the two firms would be considered out of compliance even though both firms on average have identical pollution levels. Similarly, if one of these two facilities has an accidental discharge—perhaps by an employee who makes a mistake and fails to hit the correct switch—that facility might be out of compliance despite good intentions by both facility managers.

It should now be evident that firms might be out of compliance for several different reasons. First, a firm might intentionally violate the law and fail to install or to properly maintain pollution-control equipment. Second, a firm might be out of compliance through negligent behavior—either by not maintaining a piece of equipment properly or by failing to adhere to proper pollution-control procedures. Finally, a firm might be out of compliance with environmental regulations because of events entirely out of its control. For example, an oil tanker might spill oil following an accident with another ship or due to damage it incurs as a result of extremely bad weather. While I have characterized this latter form of noncompliance “accidental,” in truth, all accidents involve some degree of culpability on the part of the party that has the accident. Whether the oil tanker has been equipped with a double-hull, has adequate navigation equipment or lighting to warn approaching ships, has a properly trained crew which is not overworked beyond capacity, and has readily available equipment on board to contain a spill if an accident does happen—will all affect the likelihood that a spill will occur as well as the severity of any spill that does occur. This is also true for a stationary facility that is trying to avoid an accidental discharge due to bad weather, faulty electricity, or even a terrorist attack that is designed to force a discharge of hazardous chemicals. Thus, it is often difficult and/or costly for a government agency to determine the “cause” of polluting activity. This issue will be discussed later, when the notion of “strict liability” versus “negligence” standards is dealt with in the context of monitoring employee behavior.

ECONOMIC THEORIES OF FIRM COMPLIANCE AND PENALTIES

Economists have studied firm compliance behavior in a similar manner to that of criminal behavior. The Nobel Prize winning economist, Gary Becker (1968), first formalized the “optimal penalty” theory to analyze criminal behavior. The basic insight of that seminal article is that potential criminals respond to both the probability of detection and the severity of punishment if detected and convicted. Thus, deterring criminal activity may be achieved either by increasing the severity of the penalty, by increasing the likelihood that the offender will be caught, or by changing legal rules to increase the likelihood of conviction. The “optimal

penalty” for Becker is equal to the harm divided by the probability of detection. This penalty will deter potential criminals optimally because it ensures that they weigh the expected benefit from engaging in criminal activity against the expected cost—which is now set to the “expected social harm” from their illegal activity. In other words, the Becker optimal penalty turns the individual utility maximization problem into one of social welfare maximization.

One of the key insights of this model is that the government can trade off these various policies. Thus, for example, if government resources for police are reduced, the same level of crime control might be achieved by increasing the severity of punishment if caught. Similarly, if a government enforcement agency’s budget is cut, it is theoretically possible to achieve the same level of compliance using increased penalties for noncompliance. In fact, the Becker model actually prescribes setting the probability of detection small (to save on policing resources) and instead setting the penalty as high as possible. However, there may be limits on how high a penalty is feasible—for political reasons, wealth constraints, or limited life expectancy of criminals, or for purposes of preserving marginal deterrence.¹

While Becker’s model was designed to analyze criminal activity such as burglaries, robberies, or violent crimes, it has since been applied to firm compliance of environmental regulations (see, in particular, Cohen, 1987, 1992; Magat & Viscusi, 1990). The Becker model assumes that the firm is rational and maximizes its expected profits by weighing the cost of compliance against the expected savings from noncompliance. In this case, the expected savings from noncompliance are equal to the direct cost savings from noncompliance minus any penalty that the firm might receive from being detected by enforcement authorities. The higher the probability of being detected and the higher the penalty if detected, the lower the expected cost savings from noncompliance.

One key assumption in the Becker “optimal penalty” model is that the decision maker who must decide whether to comply with a regulation has reasonably good information about the risk of punishment. Not only must the decision maker have good information about the probability of punishment and the size of punishment if caught, but she must also know about the law itself—that is, what compliance is actually required. In some cases, this is itself an impediment to compliance (although certainly not an excuse in the eyes of the law). For example, owners of a small business might not be well versed in the law and might not have access to trade associations or other mechanisms to learn about environmental requirements. In that case, one possible government response is to provide information about environmental regulations, compliance assistance, and other positive forms of reinforcement to ensure compliance—instead of simply relying upon the threat of punishment.

Of course, even if the decision maker at the polluting facility miscalculates the probability of detection or the size of the penalty, the optimal penalty model might work—as

long as the government enforcement agency sets the penalty based on the decision maker’s expectations. Thus, for example, some observers have noted that small polluters have much higher compliance rates than one would estimate if simply looking at the objective probabilities and expected penalties. One reason for this high compliance rate might be that small polluters overestimate the likelihood that they will be caught and the size of the penalty—hence they are deterred and comply even though objectively it does not appear to be in their best interest. There is some limited survey evidence that this is the case in the United States.

Note that in the context of environmental compliance, there are various stages at which the government might intervene. Thus, for example, the government might wait until it has discovered an illegal discharge of pollution to determine that there has been noncompliance, and then impose a penalty once noncompliance has been discovered. Alternatively, the government might proactively inspect facilities to ensure compliance with all regulations and impose penalties for failure to install or maintain equipment—even if there has not been any illegal discharge. These alternative approaches are not necessarily equivalent. Not only will they require different levels of government resources to enforce, but also their effectiveness might vary considerably depending upon the circumstances. For example, *ex ante* monitoring might be more effective when it is difficult to determine the source of pollution *ex post*. An example of this might be the difficulty of determining the source of a contaminated water supply in an industrial area with many different factories. In that case, inspecting each facility to ensure they have adequate control equipment might be a more feasible and reliable method of determining noncompliance than trying to identify the source of pollution after it has already occurred.

Another example in which *ex post* sanctions might not be effective is if a firm is nearly insolvent and cannot afford a large penalty; hence, there is little incentive for them to comply. In that case, preemptive inspections might be far more effective. Forcing the firm to comply—or to shut down its operations—will prevent pollution from occurring, while no *ex post* penalty will deter this illegal behavior. Alternatively, *ex post* nonmonetary sanctions (e.g., incarceration) might be used against individuals within the firm or the firm owners as a way to increase the severity of sanctions without increasing the monetary penalty. Note that incarceration is not the only form of nonmonetary sanction. Individuals convicted of a crime may be placed on probation, forbidden from engaging in certain lines of business or professions, or may have certain restrictions placed on their rights. Similarly, organizations might be placed on “probation” whereby the court or regulatory agency monitors their future compliance or remediation activity. They might also lose certain rights such as the right to sell goods or services to the government or even the right to engage in an activity such as hazardous waste disposal.

In addition to the threat of sanctions, governments often engage in many positive programs designed to encourage

and assist companies in achieving compliance. Especially in the case of small firms which might not have the capacity to pay for full-time environmental staff or to hire consultants, the government might provide technical assistance. In some cases, government tax incentives and/or low-interest loans might also be used to lower the cost of compliance.

NONGOVERNMENTAL “SANCTIONS” AND FIRM COMPLIANCE

As noted previously, one reason firms might comply with environmental regulations is the threat of government-imposed penalties if they do not comply. However, as also noted earlier, researchers long ago observed that the risk of being caught and the expected penalty from noncompliance is extremely low—and that if most firms were to do this simple cost-benefit calculation, they would find it is not in their best interest to comply! Thus, there must be other reasons for compliance in addition to the immediate threat of government sanctions.

One reason firms might comply with environmental regulations is the threat of sanctions outside the normal government enforcement mechanisms. For example, a facility that is continuously found to violate pollution control laws might have a difficult time convincing a local zoning authority to grant a license to expand its facility. To the extent bad publicity follows a government enforcement action, investors might shun the stock of that company either for reasons of social conscience or simply because they fear there are other hidden problems with the company. In other words, investors might use the environmental compliance record of a company as an indicator of the quality of management. Presumably, if a manager is good at navigating the complex world of environmental regulations, he is also good at navigating the equally complex world of manufacturing and sales. Finally, certain consumers might be less likely to purchase products from companies with poor environmental records. Firms with consumer brand-name products and reputations are likely to be more sensitive to consumer demand and thus are more likely to be subject to this type of pressure. There is growing evidence that a small but significant percentage of consumers care enough about environmental performance of firms to make it one criterion in their purchase decision—at least at the margin when price and quality are otherwise equal. In fact, a significant percentage (10%–15%) of new product introductions involves some form of “green marketing.” Thus, the marketplace might reward firms that comply with environmental regulations.

Another reason firms might comply is due to social norms and the fact that individuals generally want to abide by laws they understand. Thus, assuming managers know about the environmental standards they are supposed to adhere to, compliance might be simply the result of a moral obligation. Compliance might also be higher to the extent that individuals and firms believe the rules are legitimate

and fairly applied. To the extent social norms and legitimacy explain compliance, we would expect that the role of the government is largely to inform regulated firms of the requirements, and perhaps provide them with assistance in the form of technical know-how and encouragement to comply. It would also be important for the government to fairly enforce regulations, as people are more likely to adhere to laws that they believe are fairly and uniformly enforced.

COMPLIANCE WITHIN THE FIRM: MONITORING EMPLOYEE BEHAVIOR

Thus far, we have largely assumed that decisions made at the corporate level will be implemented in the field. Thus, if the owner or top manager of the company wants its facilities to comply, we assume they will do so. Put differently, if the “optimal penalty” is imposed on the owners of the firm, it is assumed that they will have the appropriate incentive to ensure that their firm is in compliance. Thus, the government enforcement agency can simply impose an optimal penalty on the company that is generating the emissions and not worry about the individuals involved. In reality, however, corporate owners and managers have their own enforcement problem when trying to convince employees to act on the company’s behalf. This is no different from any other organizational design problem for a firm manager—how to motivate employees to work in the best interest of the firm. This is a classic “principal-agency” problem, whereby the principal (firm) must design an appropriate incentive contract to motivate the agent (employee). In a principal-agency problem, the principal has a difficult time motivating her agent’s behavior only if the “effort” by the agent is unobservable. In other words, if the principal can perfectly (and costlessly) observe the action of the agent, it would be easy to design an incentive contract—the agent would only be paid if she acted in the principal’s best interest. In reality, of course, it is almost never possible to fully observe the agent’s actions.

Any student of organizational design or organizational economics will realize how difficult it is to evaluate and compensate employees to work optimally on the firm’s behalf. Few employees have only one task that can be monitored, and no employee’s actions can be monitored perfectly without cost. Thus, for example, suppose a facility manager’s compensation is based on his unit’s profitability. To reduce costs, he might decide to postpone required maintenance of pollution control equipment. Suppose further that a hurricane floods his plant, resulting in the bursting of an overflow tank that should have kept hazardous wastes from flowing into a local water supply. Was the resulting pollution caused by an act of nature or by the negligence of the manager who could have prevented the tank from bursting if it had been properly maintained? As discussed above, the government might decide to either use a “negligence” standard in deciding about the appropriate punishment—that is, impose severe punishment only in the case

that it is determined the pollution control equipment was not properly maintained, and impose no (or less) punishment if the “accident” occurred despite the best efforts of the facility. Alternatively, the government might impose a “strict liability” standard on such discharges, in which case it does not care if the pollution is “caused” by a natural disaster or intentionally. In the United States, some environmental regulations are enforced based on negligence standards, while others are based on strict liability.

It is clear that imposing a “strict liability” standard is less costly to the enforcement agency than a negligence standard, since in the former case there is no need to investigate the cause of the pollution—if it happens, the firm suffers the consequences. This is also true in the case of the employer-employee relationship. It will be less costly for the employer to use a strict liability standard than to have to investigate the cause of any polluting event. Thus, at first blush it might seem that a “strict liability” standard should be imposed by the owners of the firm on its facility manager. However, that shifts the risk of natural disasters onto individuals who are less able to bear that risk than firm owners who are likely to be wealthier and more diversified. Shifting the risk to the facility manager could have several effects. First, to attract people into that profession—where they risk being fined or laid off in the event of an act of nature beyond their control—would require paying a “risk premium.” Second, individuals faced with that situation are likely to “overcomply” to avoid the negative consequences of a violation. Thus, for example, the facility manager might purchase costly backup equipment that the firm does not otherwise want—solely to avoid the personal liability associated with a polluting event. While we cannot cover all of the nuances of this situation, it is clear that designing an optimal incentive contract is not a trivial exercise.

EMPIRICAL EVIDENCE ON FIRM COMPLIANCE

The empirical evidence on firm compliance largely focuses on understanding whether or not government enforcement and monitoring activities increase compliance—and hence deter illegal behavior. Due to data availability, much of this literature has focused on three industries—(a) oil spills from tankers and transfer operations, (b) water pollution from pulp and paper mills, and (c) steel industry emissions. Cohen (2000) contains a review of the empirical evidence on the effectiveness of government enforcement activities in reducing pollution. In the case of oil spills, most of the violations are either “accidental” discharges (which as discussed earlier might oftentimes be characterized as being partly “caused” by negligence) or intentional violations such as cleaning out a tanker and disposing wastes directly into a waterway. In contrast, the pulp and paper and steel industries involve ongoing pollution that is controlled through continuous processes. Pollution is allowed, but only at a level specified in the government-granted permit.

In general, these studies show that both increased government monitoring and increased enforcement activities result in reduced pollution and/or increased compliance. Studies at the *plant* level (e.g., pulp and paper or steel mills) have documented a *specific* deterrent effect. “Specific deterrence” refers to the effect that an inspection or enforcement activity targeting a particular firm has on that firm’s subsequent environmental performance. While there might be many reasons why firms tend to improve their environmental performance following a government inspection, one reason appears to be the threat of more punitive sanctions if a violation is found on a repeat inspection. There is evidence that the EPA, for example, imposes a higher penalty on “repeat violators” than on those who are found to be in violation of environmental regulations the first time. Thus, we would expect (and find) that firms are more careful after their first violation.

Other studies have measured monitoring and enforcement at an aggregate level (e.g., state, region, or port). In many cases, the demonstrated effect could be labeled “general deterrence.” General deterrence refers to the effect of an enforcement activity on the behavior of a large number of persons or firms who might not have been targeted by the initial enforcement effort. A series of empirical studies beginning in the mid-1980s have documented a *general* deterrent effect on both the frequency and volume of oil spills from increased Coast Guard monitoring activities. For example, random port patrols—where the Coast Guard simply looks for evidence of oil sheens—has been found to deter spills. However, the magnitude of any deterrent effect differs by monitoring activity, and there is some evidence that “targeted” monitoring—where “high risk” vessels are targeted for increased inspections—enhances the deterrent effect of Coast Guard activities. There is only limited evidence that higher government-imposed penalties have any deterrent effect on oil spills. This might be due to the relatively small fines that have been traditionally levied on spills (oftentimes only a few hundred or thousand dollars)—hence, it is not known if significantly higher penalties would have a larger deterrent effect.

As discussed earlier, community pressure outside of government enforcement agencies might also deter firms from violating environmental regulations. There is some evidence that simply publicizing those firms that are out of compliance may bring about sufficient shame and/or community pressure to convince managers to clean up their acts. Several experiments in information disclosure programs in emerging economies such as Indonesia and China have been promoted and reported on by the World Bank (see <http://www.worldbank.org/nipr>). Although some of these experiments are designed to fill a void where no regulations are in place, others have explicitly used the power of information disclosure as a method of pressuring firms to comply with government regulations. This is particularly useful in countries where government enforcement resources are limited. It has also been noted that information programs like this are likely to be more successful to the extent that the local community is educated and politically active.

Thus far, we have largely ignored any differences among firms and instead simply said that some comply and others do not. The “optimal penalty” model would predict that differences in compliance rates would be due to either perceived (or actual) differences in the detection rate or differences in the cost of compliance. Thus, if it costs some firms more than others to comply, for example, we would expect compliance rates to differ. In addition, we already discussed the possibility that organizational design and incentives within the firm might cause some firms to comply less than others. Government enforcement agencies are particularly interested in understanding which firms are more likely to be out of compliance so that they can target their enforcement activities. Unfortunately, the evidence to date is rather weak and somewhat mixed.

One of the factors thought to be important in understanding compliance is firm size; however, it is not clear whether larger or smaller firms are more likely to comply. First, we need to be careful in specifying what we mean by size. There might be a huge difference between “facility” size and “company” size, for example. A multibillion-dollar business might own hundreds of very small facilities scattered across the world. Another company of the same size might have one enormous plant that is centrally located. These are very different companies and are likely to have different approaches to environmental compliance.

On the one hand, larger firms might have a lower cost of compliance to the extent there are economies of scale in compliance. At the facility level, there might be economies of scale due to construction costs and scaling of pollution control equipment. For example, doubling the capacity of a facility might require running the plant an extra shift—which might require more electricity and maintenance of pollution control equipment. However, doubling the capacity at a facility like this would not necessarily require duplicating the expensive pollution control equipment that is already in place. In contrast, doubling the capacity of a company by building an identical facility at a different location might indeed cost the company twice the amount to comply with environmental regulations. In some cases, there might also be economies of scale at the corporate level. For example, a large firm with many facilities might be able to afford a full-time compliance staff that can maintain continual vigilance over state-of-the-art compliance techniques as compared to a small firm that might not keep up with innovations or have to hire an expensive consultant to assist with its compliance program. In other words, a large corporation that owns many small facilities can spread the cost of acquiring knowledge across many of its facilities, whereas the owner of a single facility does not have that opportunity. In addition to economies of scale, it is also possible that larger firms are more visible in their communities—and hence more subject to community pressure to comply with environmental regulations.

On the other hand, larger firms might have more difficulty motivating employees to comply with environmental

regulations. That is, to the extent there are more problems associated with the principal-agency relationship in larger firms, we might expect less compliance. For example, a firm that has many facilities spread out worldwide will find it costlier to monitor employee behavior than a firm with a single facility. Similarly, a facility manager with 3,000 employees will find it more difficult to monitor employee behavior than a facility with only 10 employees. Some sociologists have also argued that larger firms might have more political power and thus are more likely to be able to “get away with” noncompliance.

While the evidence on size is somewhat mixed, most of the studies to date have found that larger firms are actually less likely to be in compliance. This is particularly true if the facility is part of a multifacility company. However, these studies are generally looking at firm size within an industry. They do not, for example, compare very small machine-shop operators with large integrated steel manufacturers.

Another possible reason for differences in compliance rates is that firms have different ownership structures. For example, suppose that it is in the firm’s best interest to comply with environmental laws—that is, the owners of the company want to comply. If the owner of the company is also the person who makes the decision on what pollution control equipment to install, when to hire someone to maintain the equipment, and so on, we can be assured that the firm will most likely be in compliance. However, if the company is a publicly traded firm whose owners are thousands of shareholders, the owners of the company will not be making those day-to-day decisions. Further, it will be very costly for those owners to monitor the behavior of the manager who is hired to maintain the pollution control equipment. Once again, this is an example of a principal-agency problem, where shareholders (principals) hire managers (agents) to act in their best interest. Yet, we know that due to the high cost of monitoring, we can expect some degree of shirking on the part of managers. While the evidence in the environmental area is not strong, there is more general evidence that corporate crimes (including environmental crimes) are less likely to be committed by companies whose managers own a significant share of the company’s stock than in companies where managers have little stock in the company (see Alexander & Cohen, 1999). This fact also suggests that many of the environmental violations that occur in large, publicly traded firms are likely to be caused by negligence or employee shirking—not by deliberate company policy. That is because if it was in the company’s best interest to violate the law, we would expect managers who have a larger stake in their companies to be more likely (not less likely) to commit the violation.

Another important factor thought to affect compliance is the financial ability of the firm. Firms that are in financial distress are thought to be less likely to comply as they focus their attention (and scarce resources) on trying to meet payroll and stay in business. There is some evidence of this effect

(see Alexander & Cohen, 1996) where it has been found that firms violating environmental criminal laws are more likely to be in financial distress than average. Another factor thought to affect compliance is the country in which the facility's corporate headquarters are located. For example, the managers of a facility located in the United States, but whose parent company is headquartered in Italy, might not be as familiar with U.S. environmental laws and thus might not be in compliance.

Finally, there is some evidence that the extent to which cooperative approaches and compliance assistance—as opposed to coercive threats of punishment—are effective in inducing firm compliance. Most of those studies have been conducted outside the United States, for example in Canada and Denmark, where the environmental enforcement agencies' roles have oftentimes been viewed as being more cooperative than in the United States. While it has generally been found that firms do respond to increased inspections and the threat of punishment, there is also evidence that, beyond some point, the threat of punishment becomes counterproductive, while cooperation and other forms of positive assistance might be effective (see, e.g., May & Winter, 1999).

One of the least-studied issues of firm environmental compliance is the individual motivation of employees and managers. While there are many theories about why individuals might comply (e.g., the threat of punishment, according to the economic model; or social norms of behavior, according to sociological theories), there is little empirical evidence of individual behavior. The evidence discussed previously is largely at the firm—not individual—level. The few surveys of environmental managers give conflicting results, partly due to the fact that these studies have asked hypothetical questions. It would be difficult to ask an environmental manager a question like “Why don't you comply with the law?” Because of the sensitive nature of these questions, it has also been difficult for researchers to gain the cooperation of companies in conducting such studies. Nevertheless, a very fruitful area of future research would be to survey managers and employees to understand their motivations.

WHY DO FIRMS GO “BEYOND COMPLIANCE”?

To those who wonder why firms comply with environmental regulations, an even more intriguing question now appears to be of importance: why firms might reduce pollution even in the absence of (or beyond existing) regulatory standards. There is a growing trend in both the United States and abroad for firms to reduce emission levels beyond the legally required mandate. For example, over 1,200 firms participated in EPA's 33/50 program, agreeing to voluntarily reduce certain chemical emissions by 33% by 1988 and 50% by 1995 (U.S. Environmental Protection Agency,

1999). More recently, EPA has promoted the “Performance Track” program, which

recognizes and drives environmental excellence by encouraging facilities with strong environmental records to go above and beyond their legal requirements. Members set typically four public, measurable goals to improve the quality of our nation's air, water, and land. Members include major corporations, small businesses, and public facilities that are steering a course toward environmental excellence. Currently, the program has about 50 members and welcomes all qualifying facilities. (U.S. Environmental Protection Agency, 2007a)

Outside the governmental arena, there is a growing movement to construct “green buildings” that use less water and electricity and otherwise provide environmental benefits (see, e.g., U.S. Green Building Council, 2007). Many companies have adopted “voluntary” codes of conduct sponsored by their trade associations that mandate various environmental activities not otherwise required by law (see, e.g., www.responsiblecare.org, which is the chemical industry's initiative).

Theoretically, there are many potential reasons why firms would voluntarily go beyond compliance. All of these reasons are ultimately in the firm's best interest—that is, they are likely to be consistent with the firm's profit motive. One very important reason why firms might go beyond compliance is because it reduces their costs. Companies often find that their waste streams are inefficient as they are essentially throwing out very expensive chemicals that could otherwise be used in their production processes. Not only do they save on disposal and pollution control costs, but they also save through reduced input costs. For example, 3M saved hundreds of millions of dollars through their Pollution Prevention Pays program. Similar programs are found throughout the manufacturing sector, and many companies find that these programs can provide them with a competitive advantage (e.g., Shrivastava, 1995; Reinhardt, 1999).

Aside from production-cost efficiencies, however, there are many other reasons why firms might find it in their self-interest to reduce pollution beyond the required level. For example, consumers might demand products that are less environmentally damaging or whose manufacturers are less polluting. To the extent consumers are willing to pay more for such products, or simply to choose environmentally responsible products when price and quality are equal, firms will enter that segment of the market. Community groups might pressure firms to reduce pollution by threatening implicit or explicit boycotts, zoning restrictions, and less favorable treatment elsewhere in community activities. Concerns over workplace safety and employee morale might make some form of pollution reduction in the firm's best interest. Companies that go beyond compliance might also be treated more leniently in the event that an accident occurs or the firm is otherwise found to be out of compliance in a technical area. Indeed, EPA has indicated

that Performance Track members will be given some reductions in regulatory reporting requirements (which lowers the cost to the firm) under the theory that these firms are less likely to be out of compliance. Other benefits to firms are detailed at U.S. Environmental Protection Agency's Performance Track Benefits Web site (U.S. Environmental Protection Agency, 2006). All of these reasons are similar to the reasons why firms might comply with environmental regulations (other than the threat of direct government enforcement and penalties).

While this is still an emerging topic of inquiry, there is growing evidence that many of these factors have contributed to voluntary reductions in emissions. The most widely studied form of "beyond compliance" behavior is the Toxic Release Inventory (TRI). In 1986, Congress passed the Emergency Planning and Community Right-to-Know Act, requiring manufacturing establishments to publicly disclose the quantity and type of toxic chemicals released into the environment. The first reports were due to EPA no later than July 1, 1988 for toxic emissions in the calendar year 1987. The first public disclosure of TRI data occurred on June 19, 1989. Almost immediately, there were local and national newspaper headlines identifying the "worst polluters." One environmental group took out full-page advertisements in the *New York Times* identifying the nation's largest emitters of toxic chemicals.

A study by Hamilton (1995) showed that publicly traded firms whose TRI releases were first reported on June 19, 1989, experienced statistically significant negative abnormal stock returns. In other words, stock prices for these companies went down more than would have been expected by any normal market price change on that day. The implication of this drop in stock price is that investors updated their expectation of future pollution-related expenditures or liabilities (e.g., expecting a higher probability of accidents, increased likelihood of exposure under other regulatory programs such as Superfund, or risk of future regulation), which would reduce future firm profitability. In a follow-up study to determine the effect of the stock price reductions on firm behavior, Konar and Cohen (1997) found that firms that received a significant stock price reduction upon disclosing their TRI emissions subsequently reduced their emissions more than their industry peers—even if their industry peers had higher levels of emissions to begin with. Although this implies that investor reaction to TRI may have helped spur on emission reductions, we do not know the exact reason for either this significant investor reaction or subsequent firm behavior. Moreover, stock price reductions cannot fully explain the reductions in TRI emissions since not all firms that reduced emissions were subject to significant stock price reductions on the day TRI emissions were released. Other possible explanations include consumer or local community pressure. Yet another possibility is that, when faced with political pressure for more regulation, firms preempt new laws by voluntarily going beyond compliance (Maxwell, Lyon, & Hackett, 2000).

PUBLIC POLICY AND MANAGERIAL IMPLICATIONS

As we have discussed, there are many reasons why firms comply or do not comply with environmental regulations. Since government resources are limited, those who enforce environmental regulations are only likely to inspect a small fraction of polluting facilities in any year. If the goal of government policy is to improve the environment at the least cost to society, then enforcement resources need to be focused on the most "bang for the buck" by identifying polluting sources that are most likely to be out of compliance and/or to cause significant harm to the environment or humans—and those that are most likely to be responsive to enforcement activities as well as compliance assistance. Thus, empirical evidence of who is most likely to be out of compliance can assist government agencies in planning a targeted enforcement strategy. In general, it has been found that targeted enforcement should focus on firms that have previously been found to be out of compliance. However, studies have also been able to identify more general firm characteristics that suggest targeting certain types of companies might be appropriate. In terms of sanctions, the evidence to date suggests little deterrent effect from fines that are in the few-thousand-dollar range. To have any real deterrent effect, giving significantly larger fines and/or targeting individuals instead of firms may be appropriate. Finally, there is evidence that community pressure and social norms can be important factors in both compliance and going beyond compliance. Thus, mandatory information disclosure programs can be an effective—and relatively inexpensive approach—for government agencies to improve compliance.

For corporate managers, there are also several important lessons to be learned. First, ensuring that a firm is complying with environmental regulations reduces the risk of penalties associated with noncompliance. As we have seen, even though the dollar value of fines might not be very high, being labeled an environmental scofflaw can have other negative consequences for a firm. Having a bad environmental reputation can make it difficult to hire employees and to obtain approval for expansion by local authorities, and might also increase the risk of future government enforcement actions. It might also hurt sales from companies or consumers who care about the environmental record of companies they purchase from. Similarly, many firms have come to realize that going beyond compliance and managing their environmental risks can result in an improved competitive stature—either through lowering costs or enhancing their corporate image with regulators, local communities, and consumers. Of course, not all firms will benefit from going "beyond compliance" and even those that do will have a point beyond which further pollution reduction costs more than the benefits the firm receives. How much voluntary overcompliance a firm undertakes is a complicated issue that requires sophisticated management.

In fact, many scholars have argued that when we observe a firm that is going beyond compliance, it is a signal of very good management and the firm is likely to be well run in other dimensions and thus be competitive and profitable.

Ensuring that employees follow corporate policies to comply with environmental laws is no different from enforcing other internal compliance policies. Employees need to understand company policy as well as know that noncompliance will result in consequences for them personally. Companies that do not consistently instill compliance norms as part of the corporate culture should not be surprised when employees cut corners on environmental compliance when confronted with a tight budget or competitive pressures. Thus, leading-edge firms oftentimes include environmental outcomes as part of key employee's performance evaluations.

While ensuring that compliance is part of the corporate culture and that there are consequences for those who do not follow company policy, there are also opportunities to use the environment as a positive force for employee relations. Employees want to work for companies that they feel good about and that are highly regarded in their communities. Thus, a strong environmental culture can contribute to employee satisfaction and retention—something that ultimately saves the company money and increases productivity.

NOTE

1. "Marginal deterrence" is preserved when a criminal is deterred from committing a more severe crime. For example, if the penalties for armed robbery and murder were the same, an armed robber would not be deterred from shooting his victim and, in fact, might be encouraged to do so in the hope of reducing the probability of his being caught!

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UNDERSTANDING AND OVERCOMING THE GREEN WALL

Environmental Strategy, Leadership, and Change Management in Business

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The past 40 years of business and the environment in the United States has been dominated by legal and regulatory action and the end-of-the-pipe, technically based solutions to these issues. Until recently, firms that did create specific environmental functions within the organization rarely engaged these staff members on issues of strategic importance. Instead, the environmental department was placed in a position of little authority and power, existing as a bag on the side of the corporate hierarchy, where the core business functions reside. Their position and authority rarely offered the potential for lending value to the firm; more often, they were viewed as a cost center by upper management.

As the response to environmental pressures and demands evolved, firms began to see the strategic potential of environmental management—leading managers to the recognition of cost avoidance through pollution-prevention initiatives, and later, the opportunities present in linking environmental performance to core products and services. Many businesses now make decisions that include “beyond compliance” elements of environmental management—that is, public demand, image and reputation, new product development, and environmentally related new-business opportunities.

When businesses’ responses to environmentalism have been tied to core business decisions, however, a great deal of organizational change has been required—including overcoming the “Green Wall” between early treatment of environmental issues and the language, tools, and culture of business. This *Green Wall*, a term first coined and popularized in the mid-1990s by the consulting firm Arthur D. Little, centers on the concept that the tools used to measure, manage, and lead change in business are not the tools used traditionally by the environmental functions in business. In the case of managing environmental issues by organizations, corporate leaders have been driven to evolve over time from early industrial, regulatory, and social responsibility foci toward a mindset of the natural environment as *strategic* in nature. This recognition is increasingly important, especially with the rise of broader sustainable development and corporate social responsibility concerns. One survey of over 400 senior executives from Fortune 500 companies revealed that 92% of these business leaders believe the environmental challenge will be one of the central issues of the 21st century (Berry & Rondinelli, 1998). Clearly, environmental management and strategy has reached the executive level in many larger businesses, yet often the Green Wall remains a deeply rooted cultural obstacle in organizations, especially in the United States.

Management research on the business and the natural environment has focused on such topics as the description of environmental issues for business, environmental strategy and decision making, environmental accounting and measurement, the content and effects of laws and standards on business, the links between environmental and economic performance, and the relevance of external stakeholder pressure and public disclosure. More recently, the focus of research in environmental management has been on the role the natural environment plays for business decision making in an even broader sense—specifically, sustainability and corporate social responsibility.

In most cases, the question has been what firms are doing, rather than how or why they are making the changes required for organization-wide action on environmental issues. Where research has discussed the hows of the change process, that discussion has been most often covered by changes in products, systems, specific confined initiatives, and leadership commitment, not organization wide changes. In cases where research has touched on organizational change and corporate environmental behavior, the focus has been on integrating environmental management throughout departments. More so, research on the motivations or drivers for business behavior connected to the natural environment predominantly focuses on moral-ethical, cognitive, coercive-regulatory, competitive, and socially responsible drivers for change. As such, it pays to look at each of these drivers and how they relate to organization-wide change.

EARLY MORAL DRIVERS OF CORPORATE ENVIRONMENTALISM

In order to explore the evolution of the business communities' response to the age of environmentalism—as expressed through environmental crisis, public pressure, the formation of environmental laws, and evolving competitive demands—it is relevant to look at not only the internal elements of business organizations (i.e., structure, staff, and culture changes), but also the external pressures that have shaped corporate environmentalism (i.e., environmental events, regulatory constraints, and public demands). Just as technology changes, demographic shifts, and the internationalization of business serve as the dynamic backdrop to corporate decisions of price, distribution, and service in the United States, so too has the age of environmentalism, since the creation of the U.S. Environmental Protection Agency in 1970 affected business decisions, performance, and ultimately, competitive success. In a very general way, environmental management has seeped into nearly every aspect of business decision making and operations for large and increasingly for small firms as well. From consumer boycotts and demands of environmental consumers to the regulatory and legal environment reflected in the state and federal statutes, a wide array of environmental interests must be managed in today's business operating environment.

The early environmental movement and the following decades painted a moral-ethical picture of the evil corporate interests against nature itself (as represented by environmental organizations and government policy). This good-versus-evil representation has had a strong impact on the behavior of stakeholders within business and outside. Thus, much of the early change efforts from the private sector came from those companies whose mission held core values for the environment from the start. In this case, environmental stewardship throughout business practices was simply the right thing to do. Even today, when environmental leaders within industries (i.e., firms participating in voluntary environmental programs [VEPs]) are surveyed, “the right thing to do” is the most often cited reason for their corporate commitment to the environment.

Yet, a full understanding of the influence that the environmental movement has had on modern business decision making requires an understanding of history. Although concern for the natural environment had been expressed in word and deed well before the 1960s, this decade signaled the first time that business activity was directly tied to environmental degradation in a public manner. The conservation movement of the late 1800s and 1900s reflects a long-standing recognition in the United States of man's impact and impingement on the natural environment.

THE CHANGING LEGAL ENVIRONMENT

American environmental regulatory policy came as a wave of change crashing on the shores of the public and private sectors alike during the 1960s. Rachel Carson's book, *Silent Spring*, published in 1962, ignited the public and helped spark this new environmental movement. During this decade, Lake Erie was declared dead, the Cuyahoga River in Cleveland caught fire and burned for five days, the nation's proud symbol, the bald eagle, was near extinction from DDT poisoning, and smog in some U.S. cities was often visible and noxious. As a result, public outcry for federal leadership in protecting the country's natural environment and public health took a strong hold of Washington, as well as other state capitals, in the form of legal mandates and regulatory requirements.

While human activity was seen as responsible for environmental damage before the 1960s, it wasn't until Rachel Carson's *Silent Spring* that the public, and eventually political leaders, saw American industry and the products of industrial technology as directly responsible for biotic damage. Nature was seen as finite and fragile. The resultant public outcry—a critical mass of public opinion energizing the first Earth Day, the subsequent creation of the EPA, and the snowballing federal regulations in response to public demands—created an additional constraining force on private-sector action throughout the 1970s, 1980s, and into the 1990s. The exponential growth of these new legal requirements for business was coupled by an expansion of

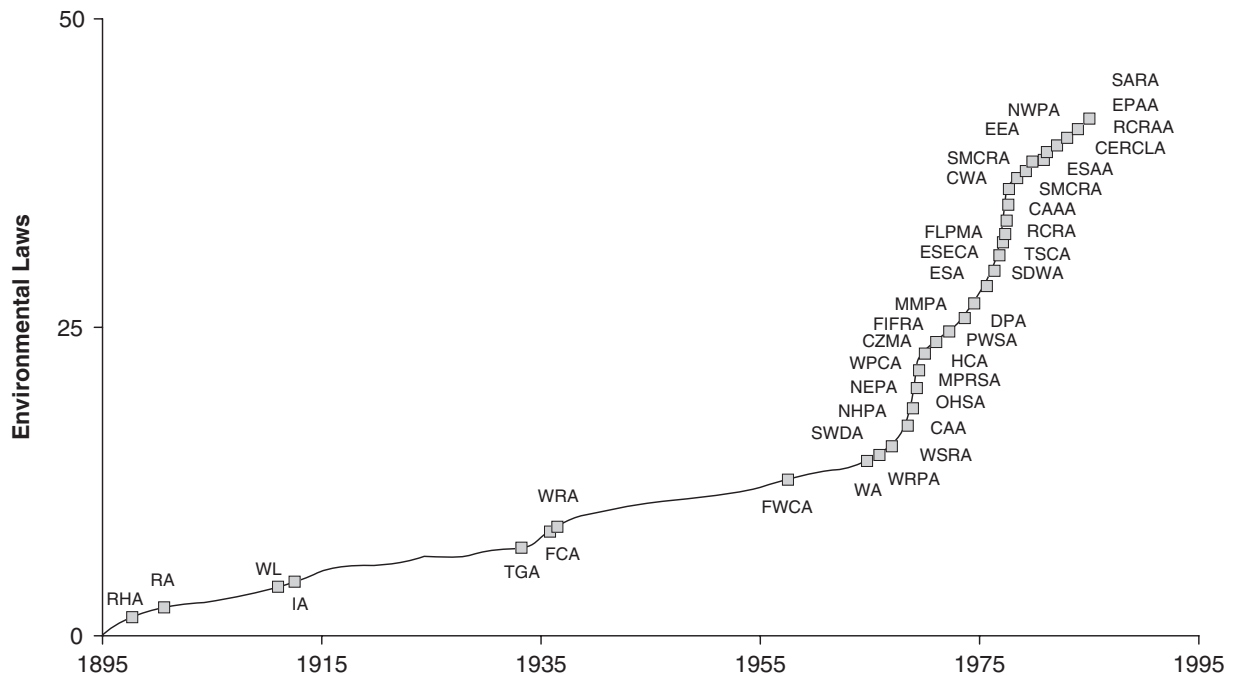


Figure 27.1 Exponential Growth of U.S. Laws on Environmental Protection

SOURCE: National Academy of Engineering, as referenced from E. Bruce Harrison's *Going Green: How to Communicate Your Companies Environmental Commitment*, Business One Irwin, Homewood, IL, 1993.

stakeholder expectations, that is, the expectations of investors, consumers, and environmental groups.

The U.S. Environmental Protection Agency (EPA) sprang from President Nixon's Blue Ribbon Presidential Council on Government Reorganization. Nixon had proposed the development of a Department of Natural Resources and Environment to address issues concerning natural resources, pollution control, public lands, and energy. During the 1960s within the federal government, environmentally related responsibilities were divided among 20 agencies receiving funding from 24 different Congressional committees. Nixon's reorganization was an attempt to streamline these efforts as much as possible. It was an early attempt to reinvent government and America's environmental policy. Eleven months after the National Environmental Policy Act was enacted, Nixon established the EPA as the federal government's second exclusively directed environmental body—formed from the merger of the Department of Interior, Health, and Environmental Welfare with smaller pieces from other federal agencies.

As a result of the federal restructuring over the next 2.5 decades, the role of the EPA as the country's regulatory agency on the environment expanded. The American environmental movement, public pressure and opinion, and advocacy-group influence pushed Congress toward the enactment of laws protecting the environment. The speed and amount of statutory requirements—primarily directed towards the private-sector producers—was astonishing (see Figure 27.1).

The bulk of the statutory requirements and regulation developed over that long period were command-and-

control and end-of-the-pipe in nature, and directed at large, manufacturing operations and heavy industries. Congress set statutory guidelines, and the EPA created specific requirements under the law addressing issues such as Best Available Control Technologies (BACT) for air and water protection, maximum permissible amounts of pollution, toxicity contents, and so forth. As such, although other agencies in the federal government have environmental responsibilities (i.e., Interior, Defense, Energy), the EPA is the primary pollution-control agency. Media specific in nature (i.e., air, water, and land), the country's environmental public policy evolved in an adversarial fashion—with EPA lacking trust in the private sector's commitment and willingness to protect the environment, and firms, in turn, criticizing EPA's less-than-common-sense approaches to environmental protection. The often ad hoc approach to environmental protection, initially at the root of EPA itself, was a result of the Agency's need to react to congressionally mandated statutory requirements. These statutory requirements looked to address environmental protection and pollution issues but in a rather piecemeal and media-specific fashion.

The corporate response to the expansive legal framework throughout the first 2 decades often relied upon denial, and of course, legal retaliation, and sometimes, grudging acceptance. Most of the money spent on environmentally related business functions throughout the 1970s and 1980s focused on the prescriptive, end-of-the-pipe technology requirement (i.e., capital expenditures on smokestack scrubbers, wastewater treatment systems, etc.), lobbying efforts

against impending legal requirement, and the legal fees tied to the inevitable court battles in opposition to these new environmental requirements.

CORPORATE ENVIRONMENTAL MANAGEMENT EVOLVES

The historical response to environmental management pressures by larger firms varies only slightly among researchers. Early regulatory pressure fundamentally shaped organizational behavior, with social responsibility models, and eventually, business opportunity models of corporate environmentalism later shaping business behavior toward the natural environment. This directly affected organizational structure as well for larger firms.

In the 1970s, many larger firms in the United States had dedicated environmental staff functions, mostly as part of an environmental, health, and safety department. During the 1980s, this trend of building internal environmental affairs and management capabilities continued. A clear expansion of staffing occurred. Multinational corporations created a whole infrastructure of units at different levels—corporate, division, and facility—as well as coordinating functions. In addition, many of them created positions of vice presidents for environmental affairs. With this, a new leadership position was born in corporate structures—the chief environmental officer.

Research has identified the stages that businesses have gone through due to these evolving public and legal pressures and resultant attempts to make environmental performance a point of competitive advantage (see Figure 27.2 and Table 27.1). In each of these cases, the institutional inertia of regulatory-driven business environmentalism is heavy and hard to overcome.

In the wake of the regulatory barrage of the 70s and 80s, larger firms like Dupont, Dow, and Xerox began to look for ways to bypass their competition and anticipate change. This signaled the birth of corporate environmental strategy. With this new view, corporate decision makers

began to recognize the opportunities inherent in identifying environmental customers, managing suppliers, seeking statutory-driven business opportunities, filling new environmental product niches, improving process efficiency, and finding real potential for enhanced public image for environmental and social responsiveness. Yet, the sheer number and reach of these leading firms has remained, up until the past decade, limited.

Table 27.1 Phases of Business Behavior on the Natural Environment: Early Literature

<p>Steger (1990)</p> <ul style="list-style-type: none"> • Indifference—low environmental risk and opportunity • Offensive—potential for exploiting environment • Defensive—high environmental risk (e.g., chemical companies) • Innovation—high risk and high opportunity for growth
<p>Roome's (1992)</p> <ul style="list-style-type: none"> • Noncompliance • Compliance • Compliance-Plus • Commercial & Environmental Excellence • Leading Edge
<p>James (1992)</p> <ul style="list-style-type: none"> • Environmental issues ignored—Steger's indifference or Roome's noncompliance • Minimum that is required by law • Move beyond compliance • Companies that use the environment as a tool for gaining competitive advantage
<p>Welford (1995)</p> <ul style="list-style-type: none"> • Ostriches—environmental concerns are passing—do nothing • Laggards—aware of importance but lack resources • Thinkers—know something should be done, but waiting • Doer—putting thoughts into actions
<p>Topfer (1985)</p> <ul style="list-style-type: none"> • Resistant—environmental laws a hindrance, hinder new laws • Passive—ignore • Reactive—unlike Roome's (legislative driver), Topfer sees catching competitors • Innovative
<p>Dodge & Welford (1995)</p> <ul style="list-style-type: none"> • Resistance—resist environmental values and rules, unresponsive • Observe & Comply—observe environmental laws unwillingly • Accommodate—adapt to change, begins exhibiting voluntary actions • Seize & Preempt—begin shaping environmental drivers and strategy • Transcend—belief in support of environment beyond dollar measures



Figure 27.2 Dominant Types of Business Responses to Environmental Pressures

SOURCE: Adapted from the literature by Kevin A. Fletcher, 2005.

Forest Reinhardt presented a summary of research on environmental strategy, identifying five dominant environmental business strategies: (a) environmental product differentiation, (b) managing competition through environmental strategy, (c) reducing costs, (d) redefining markets, and (e) managing risk and uncertainty. With each of these strategies, varying degrees and types of integration between environmental knowledge, staff, and assessment and business thinking are needed. Yet, from Wal-Mart to General Electric, many leading corporations are continuing to find the business value of environmental strategy.

Like the evolution of environmental regulation, the actions and interests of the press and media, interest groups, and the external manifestation of crisis management have also shaped corporate environmental strategy. An examination of broader management of social and political issues and the institutional response by larger firms to press coverage and interest group pressure shows that firms adopted external scanning mechanisms, environmental communications departments, and long-range strategies as a result of these nonmarket pressures as well. Leading firms have come to manage threats and opportunities related to the natural environment in a way that includes public perception.

Market studies in the United States have also indicated that consumers can be drivers for environmental-preferable products and can be segmented into specific categories based on environmentally related product-purchasing tendencies, specifically (Roper Starch/S. C. Johnson & Son, Inc. 1993)

- 10–15% are True-Blue Greens—very committed to the environment and will pay more for an environmentally preferable product or service;
- 10% are Greenback Greens—also committed to the environment, but not as likely to pay more for a specific environmental product;
- 50–55% are Half-Greens—express concern, but act erratically as a buyer, occasionally taking environmental performance into consideration of buying decisions; and
- 30% are Basic Browns—either too poor to focus on environmental issues as a buyer or simply do not care about the environment.

The leading segments of customers have served to spur a green-consumer movement in the United States—something that evolved years before in places like Europe. This factor is increasingly important to corporate strategists in the age of global competition. When environmental performance is wrapped together with corporate citizenship and measures of sustainability (including economic, environmental, and social-management issues) for companies, the landscape for success in business becomes murky, untested, and frightening. Yet, this growing segment of green consumers is also driving the need for businesses of all types to better integrate environmental concerns in day-to-day operations.

More recent studies report that the market for green products and services is nearly \$440 billion, or 4.3% of the

U.S. economy, and is expanding twice as fast as the gross domestic product. Likewise, socially responsible investing now tops \$2 trillion and 70% of Americans surveyed reported that a company's commitment to social issues is an important element in their investment decisions.

Other external facets that have been driving behavior on the natural environment for larger firms include the following:

- Banks are faster to lend to companies that prevent pollution and avoid risk.
- Insurance companies are more eager to underwrite clean companies and see environmental leadership as a signal of a well managed (i.e., less risky) company.
- Employees want to work for environmentally responsible companies, especially as an increasing number of younger employees enter the workforce. This trend will only continue as more baby boomers reach retirement age.
- Clean companies are rewarded with relief from green taxes and charges; over time this may evolve into rewards for carbon neutrality as global warming continues to evolve as a business topic.

SUSTAINABILITY AND SOCIAL RESPONSIBILITY

Recently, environmental management has grown to be included as an element of the broader sustainable development and corporate social responsibility literature. The commonly accepted definition of sustainable development or sustainability is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. This definition has incredible potential impact on businesses with respect to resource use of raw materials, pollution, waste from production processes that could irreparably harm the ecology for future generations, and even the nature of the workforce and issues like social justice and social equity.

Yet, businesses are coming to embrace the concept of sustainable development and its impact on business decision making. In a PricewaterhouseCoopers' survey of 150 U.S.-based chief financial officers and managing directors for Fortune 500 firms, 81% reported that sustainability practices would be *essential or very important* to their company's strategic mission over the next two years. As markets become increasingly closer globally, multinationals will be the first to wrestle with the transboundary, intergovernmental, and socially rich matrix of sustainability. While the recognition of its importance is seen at the top level, the integration of both environmental and societal considerations through organizations will only complicate the Green Wall phenomenon.

A central issue to sustainability research is if and how to harness the enormous power of the private sector to serve all of society. Researchers and business leaders alike believe that this can only happen through multistakeholder

partnerships between businesses, NGOs, communities, and governments to develop collaborative sustainable business models that are ecologically responsible, socially just, and inclusive for all. Emerging research perspectives on corporate sustainability acknowledge that businesses can play a fundamental role in achieving social objectives, but that in practice this requires an understanding of multistakeholder collaboration and partnering, resulting in new capabilities as a result of those partnerships, which challenge traditional business assumptions.

Just as scholars and practitioners concerned with sustainable development have focused mainly on environmental management, those concerned with corporate social responsibility have focused on social and ethical issues such as human rights, working conditions, and so forth. The social principles of justice and inclusiveness, embedded in sustainable development, have entered the corporate agenda, even among firms making promising environmental efforts at a global scale. Corporate social responsibility research has focused on three main areas with respect to environmental management: (a) developing descriptions of the evolution of corporate environmental practices; (b) explaining external and internal drivers of why organizations adopt environmental practices; and (c) examining the link between proactive or beyond compliance environmental practices and profitability. This integration of corporate social performance with environmental performance presents a challenge to identify meaningful sustainability metrics instead of focusing on pollution or environmental data. In either case, the integration on traditionally nonbusiness issues like environmental protection, social justice, and sustainability is a challenging proposition for organizations in terms of structure, communication, leadership, and so forth.

A MODEL FOR ENVIRONMENTAL CHANGE: OVERCOMING THE GREEN WALL

Ultimately, at the heart of overcoming the Green Wall in organizations is an understanding of how individual change agents lead efforts for voluntary environmental leadership. The rigid history of business environmentalism and respective influence on business environmental behavior makes this type of organizational change a difficult task. A full understanding of organizational change is needed, as is an understanding of the role of the environmental champion in that process.

Environmental initiatives, on the smallest scale, and organizationwide environmental culture building, on the broadest scale of change, are hindered by the unique nature of environmental performance expectations and content. Simply put, any environmental intentions eventually need to be operationalized before they can have any effect. Here lies a big challenge, as the mix of technical, ethical, social, and competitive aspects of environmental issues is complex and hard to manage. Integration and changing environmental actions present challenges not only between

departments, but also among layers of larger firms. For instance, surveys of people at various organizational levels within major multinational firms have shown that pivotal jobholders further down the management hierarchy, such as plant managers, were much less confident about the ease of meeting environmental targets than were top managers.

While many firms state environmental performance goals, what is needed is a better way to understand the resultant change necessary for achieving those goals. Applying John Kotter's framework for change management to understand the barriers and steps for changing corporate culture is useful here. The framework for affecting organizational change has much to offer the field of environmental management and large and small firms alike. Ultimately, there must be environmental change agents at the highest levels of the firm (i.e., upper management commitment) and throughout (i.e., building an organizational environmental culture). There are eight common errors and resultant solutions to effectively implementing organizational change (see Table 27.2).

As Kotter (1996) states, "The biggest mistake people make when trying to change organizations is to plunge ahead without establishing a high enough sense of urgency in fellow managers and employees" (p. 4). In order to initiate change on any scale, the change agent must avoid complacency by establishing a sense of urgency or crisis. Unless the status quo of an organization is fundamentally questioned and corresponding, compelling reasons for change are effectively communicated, individuals and groups within organizations will not shift in policy or practice.

Corporate environmental change is intimately linked to this concept of the need for crisis and urgency in change initiatives. On a companywide and ultimately industry-wide basis, an event like Union Carbide's Bhopal disaster, resulting

Table 27.2 Barriers for Firms' Environmental Change

<i>Kotter's (1996) Common Errors . . .</i>	<i>. . . As Environmental Change Barriers</i>
Failing to create sense of urgency	Reacted (Bhopal) or created (CFC reductions)
Not creating a guiding coalition	"Lone wolf" intrapreneurs, top mgmt. commitment
Underestimating the power of vision	Appealing to the value-laden nature of environment
Undercommunicating the vision	Historical artifacts of the regulatory environment
Permitting obstacles to block the vision	"Green Wall" phenomenon
Failing to create short-term wins	Sequencing achievable reduction goals
Declaring victory too soon	Appreciating the weight of environmental history
Neglecting to anchor changes in the culture	EMS, Training and reward systems

SOURCE: Adapted from Kotter, 1996.

in the creation of the Chemical Manufacturers Association Responsible Care initiative, for instance, serves as an example of reactive crisis driving change within an organization—and an entire industry (e.g., chemical industry). As stated previously, heightened regulations, demonstrations, consumer boycotts, and negative media attention all serve as external triggers for change, which firms must react to in order to compete. Yet, companies have also managed to avoid real crisis through the created sense of urgency on environmental issues. S. C. Johnson's elimination of CFC use in products well ahead of the mandated ban on CFC use serves as an example. The weight of public pressure on environmental performance, whether real or not, also serves as the crisis and impetus for firm change and leadership.

Kotter's (1996) second error gets to the core of failed environmental management initiatives in firms—failing to create a powerful guiding coalition:

Because major change is so difficult to accomplish, a powerful force is required to sustain the process. No one individual, even a monarch-like CEO, is ever able to develop the right vision, communicate it to large numbers of people, eliminate all the key obstacles, generate short-term wins, lead and manage dozens of change projects, and anchor new approaches deep in the organization's culture. (p. 5)

Rosabeth Moss Kanter (1983) also reflects on the power to innovate and the need for empowerment. She describes the process effective changemakers use in building an empowered coalition—buy in, preselling, sanity check, tin cupping for organizational resources, and bargaining. Kanter states that managers use a process of bargaining and negotiation to accumulate enough information, support, and resources to proceed with an innovation.

Much of the literature in environmental management alludes to this need for coalition building, often deemed simply as gaining top management commitment to environmental initiatives or change within the organization. There is a need for having organizational power and resources to develop momentum for change. Yet, coalition building is part of the process for change, rather than simply an outcome. Unfreezing the organization from its current state does not happen simultaneously throughout the organization, but instead occurs within a limited number of members first. These are pockets in the organization where the new thinking exists. These members trigger change from within and when successful, infect change throughout the organization over time.

Like any corporate change initiative, developing a significant power base throughout the upper levels of the organization on an environmental initiative is necessary. If the intended change involves the total redirecting of environmental behavior by the firm, this coalition becomes crucial. This coalition determines the depth of influence a change initiative will have in the organization.

The historic bag-on-the-side view of environmental functions in business defines the problem that environ-

mental managers in larger firms have had in building effective, organizationwide coalitions in larger businesses. Only recently have environmental issues permeated to the upper layers of corporate decision making—the needed layer for creating coalitions that break organizational inertia and allow for change to occur. In all cases, the individual program champion must have sufficient power and authority (and autonomy perhaps) to lead change and overcome the greening barrier.

At both the organizational level and the individual level, environmental change in firms has suffered from an underestimation of the power of vision, Kotter's third error. This common failure has its roots in the dominance of environmental legislation and regulation. Federal statutes protecting air, water, and land were mostly prescriptive in both technology (i.e., mandated control technology for water emissions under the Clean Water Act) and in the manner of handling environmental responsibilities (i.e., reporting, permitting, etc.). This mode of environmental control was, in time, internalized as a norm of behavior in the majority of firms, specifically in the United States.

As Kotter (1996) states, these two modes, authoritarian decree and micromanagement, "often work poorly . . . [and] leads to an increasingly unacceptable amount of time" (p. 68). for change. This manner in which firms' environmental behavior was externally controlled led environmental professionals into rigidly defined boxes, where prescriptive micromanagement was the only answer—ineffective for guiding business decisions. Potential environmental change agents in organizations, and thus organizations themselves, have failed to use the power of vision to fuel environmental change.

Kotter (1996) continues:

Vision refers to a picture of the future with some implicit or explicit commentary on why people should strive to create that future. In a change process, a good vision serves three important purposes. First, by clarifying the general direction for change, by saying the corporate equivalent of "we need to be south of here in a few years instead where we are today," it simplifies hundreds or thousands of more detailed decisions. Second, it motivates people to take action in the right direction, even if the initial steps are personally painful. Third, it helps coordinate the actions of different people, even thousands and thousands of individuals, in a remarkably fast and efficient way. (p. 68)

Leadership defines an organization's vision and is related to the need for top management commitment and the coalition-building steps. Likewise, a stated vision responds to crisis—created or actual—that helps trigger change throughout an entire organization. It is the focused, total response to that urgent environmental responsibility and corresponding business goal. The formation of corporate vision and mission statements to address environmental concerns beyond mere regulatory requirements serves as an example in larger firms.

Along with a weak sense of vision, environmental change initiatives have often been stifled by a simple lack of commitment throughout the organization. With any type of organizational change, people often have difficulty because of the sheer magnitude of the task. Getting people to understand and accept a particular vision is usually an enormously challenging undertaking. This is especially true with environmental change initiatives in larger organizations. Historically, environmental issues have been perceived throughout business organizations as cost generating in nature and peripheral at best. Changing the actions of an entire population of an organization relies on communicating the intentions of that change effort—not often done on issues of environmental concern. This lack of communication among environmental staff and other members of the company is at the heart of the Green Wall phenomenon. Once again, the historic treatment of environmental management concerns by business has created divisions among environmental staff and the rest of the company.

THE ENVIRONMENTAL CHANGE AGENT

While Kotter's first four elements for organizational change seem to address the need for unfreezing the organization, the next three errors in the change process—permitting obstacles to block the new vision, failing to create short-term wins, and declaring victory too soon—each relate to the act of moving the organization in a new direction. Even if environmental goals are effectively created and plans are made, action (or change) does not automatically take place. Change agents must address the wide gap between plan and action.

With any intended change of direction in an organization, a corresponding series of obstacles forms quickly to block the change process. As Kotter (1996) states,

New initiatives fail far too often when employees, even though they embrace a new vision, feel disempowered by huge obstacles in their paths. Occasionally, the roadblocks are only in people's heads and the challenge is to convince them that no external barriers exist. But in many cases, the blockers are very real. (p. 10)

These blockers for change include structures (formal structures making it difficult to act), skills (a lack of needed skills undermines action), systems (personnel and information systems make it difficult to act), and superpowers (bosses discourage actions aimed at implementing the new vision).

An important task is to handle criticism or opposition that may jeopardize the project. As Rosabeth Moss Kanter (1983) states,

I could identify a number of tactics that innovators used to disarm opponents: waiting them out (when the entrepreneur had no tools with which to directly counter the opposition); wearing them down (continuing to repeat the same arguments and

not giving ground); appealing to larger principles (tying the innovation to an unassailable value or person); inviting them in (finding a way that opponents could share the 'spoils' of the innovation); sending emissaries to smooth the way and plead the case (picking diplomats on the project team to periodically visit critics and present them with information); displaying support (asking sponsors for a visible demonstration of backing); reducing the stakes (de-escalating the number of losses or changes implied by the innovation); and warning the critics (letting them know they would be challenged at an important meeting—with top management, for example). (p. 231)

Environmental management differs from other corporate concerns due to, among other factors, its moral-ethical features that often deviate from typical strategic business concerns. This added characteristic of environmentally related organizational change, unlike the drive for a new accounting system or shepherding a new product through the organization, can create extraordinary resistance. This is specifically due to the strong feeling and emotion tied to the natural environment by people, and the antagonistic history the public (i.e., employees) have experienced and been exposed to by the media for the past 35 years. Along with an intentional blocking of environmental initiatives, there are also instances of unintentional disconnects between corporate leadership and environmental departments.

Change also has a component of time that can snuff out any new environmental strategy or course of action. According to Kotter, major change takes time, sometimes lots of time. Allies will often stay loyal to the change process no matter what happens. Most other people expect to see convincing evidence that all the effort is paying off. Finally, nonbelievers have even higher standards of proof. They want to see clear data indicating that the changes are working, that there is or will be a benefit to the organization, and that the change process is not absorbing so many resources in the short term as to endanger the organization.

As such, it is important to generate short-term wins along the way. Because of its often divisive and litigious history and its value-laden nature, environmentalism has the potential to stir emotions of those critics in the organization intending on dividing environmental responsibilities from economic goals.

Effective environmental change agents find the urgent reason to take that first step, use the vision of the distant mountains as their guide, select the right organizational members to walk with them, and draw more followers throughout the organization by sequencing the journey one step at a time. In order for an environmentally benign culture change to proceed, it is essential that the organization gains positive experience from the environmentally improved actions during the period when old and new ways of doing things compete. Reinforcement of the success of the new practices speed the cultural shift and may be necessary for the change to proceed.

There have been instances of successful organizational environmental change which point to the importance of

generating these short-term wins. Integrating environmental concerns into the new product development process, building internal cross-function advisory boards for guiding environmental decisions, or sequencing change allows for staff acceptance and organizational retention. Likewise, internal praise (i.e., awards, ceremonies, and reward structures), and external praise (i.e., positive media coverage or environmental NGO endorsement) for such actions serves to accelerate the change. All of this has implications for those organizations developing and managing voluntary environmental initiatives.

Finally, to allow for organizational movement after un-freezing, Kotter seeks to avoid the seventh common error for change—declaring victory too soon—by nurturing the successes along the way and leveraging those successes for more change—a continuous improvement model for change. The organizational field shaping business environmentalism is constantly changing. In the recent decade, regulations and policy triggers have evolved, giving way to management systems-based appeals on an international level. Tools like Environmental Management Systems are becoming more commonplace, building from the total quality movement of the past, with firms looking to integrate their environmental management practices within a plan-do-check-act framework. Likewise, the competitive environment is always changing, and stakeholder expectations are equally dynamic. As such, even when the Green Wall is negotiated and scaled, there is a need to ensure the change is dynamic and perpetual by assuming new barriers, driven internally and externally, may enter the firm structure at any time. For instance, the loss of a key ally at the upper management level may necessitate a revisiting of the steps outlined above—building a new coalition with new employees and leaders in the firm.

INSTITUTIONALIZING BUSINESS ENVIRONMENTALISM: ANCHORING THE CHANGE

The final element in the change process involves refreezing, anchoring the change in the culture. An organization's culture is that mix of structure, systems, and staff that give it a deeply rooted sense of self. In the simplest terms, the culture of an organization is the way we do things around here. Edgar Schein (1992) has written extensively on organizational culture and offers the image of an iceberg to further define it. What we see—consumers, employees, investors, and stakeholders alike—is the above water manifestation of the organization. Below the surface, however, are the elements and attitudes that truly give the organization its meaning. It is the collective consciousness of attitude and behavior that defines a group or organizational culture. As such, culture change is long and difficult. Changing an individual's attitude and behavior is one thing; changing the collective attitudes and behaviors of a diverse group of individuals is something completely different.

As such, many change efforts fail due to an inability to sustain that change against the status quo. This is true for environmental change efforts as well. Leaders create and change cultures, while managers and administrators live within them. The goal of environmental leadership, and sustainability for that matter, culminates with the question of profound change in organizational culture. This cultural component of an organization stands as a relatively new area for researchers and practitioners alike.

Affecting individual behavior, values, and basic assumptions, requires an enormous amount of time, resources, and effort. Yet, given the value-laden nature of environmentalism, focusing on firm culture for anchoring change allows for a more effective implementation of firm-level environmental behavior. The differences between symbolic change and real change are exposed when studying an organization's culture. The gap between ideas, plans, and actions are more readily seen. Even if the company mission statement is phrased in terms of stewardship for future generations, a defensive climate may lead to providing information on specific issues that challenge commercial interests or organizational dynamics. As a result, environmental issues become ignored.

There is a difficulty and importance in changing the deeper culture of the organization to ensure actions and behaviors are sustained beyond the life of the leader shaping the change process. Kotter (1992) defined additional factors of anchoring change—including the need for results previous to the cultural shift, lots of time communicating intentions, possible staff changes, and changes in promotion and reward processes. Individual reward and organizational performance is once again a crucial lever for change. So too is consistent and constant positive feedback, both from within the organization and from outside actors (i.e., investment community, consumers). As the business of business is profit generation, at least in some measure, if the market does not react positively to change resulting from breaking down the Green Wall in organizations, then those changes risk a short life as well.

Looking at an organization's culture is essential for the identification of underlying factors that give rise to unsustainable practices. This is an important component of any change process. Addressing a firm's culture is, then, necessary in the development of positive environmental behavior on an organizationwide basis. Anchoring change, it seems, is the most difficult, yet most essential aspect for sustained change efforts.

SUMMARY: MOVING BEYOND THE GREEN WALL

Research in organizational change management—for quality, customer service, or heightened competitive awareness—offers a wealth of information to the study of corporate environmental behavior. Environmental change agents, or champions, like their traditional counterparts, require

power, tools, resources, peer and upper management commitment, systems for change, and persuasion tactics for effecting change. Unlike their counterparts, however, environmental champions within the firm face the historically driven weight of environmentalism which creates barriers against change. The cognitive myth that environmental responsibilities and business goals are mutually exclusive is being dispelled as leading firms redefine environmentally driven competitive advantage, but these myths are powerful barriers for sweeping change.

This Green Wall for environmental change, while increasingly scaleable, continues to be a barrier for organization-, industry-, and society-wide change. As the environmental movement in business slowly gives way to the more complex and comprehensive sustainability movement, a new set of obstacles for change are likely to become pervasive. Issues of social justice, fair wages, and quality of life are being wrapped together with environmental concerns for business leaders. This complicates the perspective even more. Yet, as the model explored in this chapter shows, any change process must include an awareness of how the content of change interacts with the process of change, in particular the initial starting point.

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ENVIRONMENTAL SUPPLY CHAIN MANAGEMENT

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The issue of green or environmental supply chains (these two terms will be used interchangeably) is critical for the successful implementation of what has been defined industrial ecosystems and industrial ecology. But more significantly, this topic is important due to the environmental impacts of multiple organizations across a supply chain rather than focusing on a single organization. Waste and emissions caused by the supply chain have become the main sources of serious environmental problems ranging from such issues as global climate change to hazardous waste generation and acid rain. Organizations have a number of reasons and pressures for implementing environmental supply chain policies, from reactive regulatory reasons, to proactive strategic and competitive advantage reasons. This paper will focus on a review of established and emerging research and practice on environmental supply chains and their management. In a way, the article serves the dual purpose of presenting the state of the art as well as the state of the debate.

For the purposes of this chapter, the supply chain “system” includes purchasing and inbound logistics, production, distribution (outbound logistics and marketing), reverse logistics, and input-transformation-output-feedback definition of a system. In the following, we shall see that other definitions exist as well. The first three categories are part of the well-known value chain concept espoused by strategic thinkers such as Porter. The last functional element, reverse logistics, is one of the more recent areas of focus by supply chain researchers. Figure 28.1, described later, brings these factors together.

We begin our discussion and debate faced by development of a definition for environmental supply chain management. After a brief discussion concerning the definition of supply chain management and green supply chains, the discussion and presentation of issues turns to our three defined areas. Some practices, research, and evolving issues are discussed for each of them. Then, we will present an integrative look at the whole system and common issues. We will also present what the future may look like and some possible emerging debates.

DEFINITIONS

Supply Chains and Supply Chain Management

The concept of supply chains and supply chain management is a relatively recent (within the last 20 years) managerial principle. The topic and field have evolved with input from a number of disciplines and fields including purchasing, marketing (distribution channels), logistics, and operations management. The issues include management of inventory, customer-supplier relationships, delivery time, product development, and purchasing just to name a few related managerial areas.

A textbook description of supply chain management by Handfield and Nichols (1999) provided the following definition for a supply chain: “The supply chain encompasses all activities associated with the flow and transformation of goods from raw materials (extraction), through the end user,

as well as associated information flows. Material and information flow both up and down the supply chain” (p. 2).

In this description, the supply chain is considered a linear process. The circular and systemic philosophy of “ecosystem” thinking is not explicitly included. Thus, from this textbook perspective, the integration of the full cyclical supply chain is not considered central to its definition. Few textbooks seem to diverge from this definition. This small example is exemplary of common wisdom within the supply chain management field. Developments in greening supply chains have yet to diffuse through the general literature. Practice in this area seems to be as sporadic and diverse as the field of study, with green supply chains poorly and/or erratically practiced and investigated.

Green Supply Chain Management—What Is It?

Green supply refers to the way in which innovations in supply chain management and industrial purchasing may be considered in the context of the environment. (Green, Morton, & New, 1996, p. 188)

Environmental supply chain management consists of the purchasing function’s involvement in activities that include reduction, recycling, reuse and the substitution of materials. (Narasimhan & Carter, 1998, p. 6)

The term “supply chain” describes the network of suppliers, distributors and consumers. It also includes transportation between the supplier and the consumer, as well as the final consumer . . . the environmental effects of the researching developing, manufacturing, storing, transporting, and using a product, as well as disposing of the product waste, must be considered. (Messelbeck & Whaley, 1999, p. 42)

From these three definitions, we see that there is a range of author focus and purpose on green supply chains and their management. Research or practitioner field (i.e., purchasing, operations, marketing, or logistics) also influences the definition. The definition of the purpose of green supply chains, which range from reactive monitoring of general environmental management programs to more proactive practices such as the Rs (e.g., reuse, remanufacture, recycle, and reclamation) of environmental management and incorporating “innovations” also differ. This lack of consensus in practice and definition of green supply chain is not surprising, since its foundational elements of corporate environmental management and supply chain management are both relatively new areas of management study and practice.

The discussion in this chapter will follow the last of the four definitions encompassing most of the customer-supplier supply chain. The supply chain has both a supply side and a demand side, and both of these sides need to be managed.

Figure 28.1 shows a number of environmental issues as well as operations within a typical supply chain. The primary focus in this figure is the management of materials

that flow through the supply chain and relationships among the various functions. Vendors (who have their own internal and external supply chains) supply the necessary materials. The materials may include raw and virgin material, parts, and components from original manufacture and recycled, reusable, or remanufactured materials. There are environmental implications depending on the focus of acquisition activities at this stage. These materials are transported from various vendors, which also may be a determinant of environmental impact of the product or material to be procured. For example a recycled material from a distant location may not be as environmentally sound as a virgin material from closer locations. The policies for selection of vendors are a central issue for purchasers. Vendor selection criteria and policies are briefly reviewed. These materials are then stored and may be managed under the auspices of the purchasing function. The product and process design will influence each of the major functions. This influence requires management by various functions and vendor(s) contributing to the product and process design. Included in design issues will be such topics as life cycle analysis (LCA) and design for the environment (DFE) concepts.

The production function is composed of assembly and fabrication. In this function, environmental issues such as closed-loop manufacturing, environmental management systems (EMS; e.g., total quality environmental management [TQEM] and ISO 14000 environmental management standards), demanufacturing, and source reduction all play some role. Outbound logistics includes such activities and issues as transportation determination, packaging, location analysis, and warehousing, as well as inventory management (for finished and spare parts good items). Marketing’s influence is through customer relationship management as well as green marketing concerns. The “use” external activity is the actual consumption of the product, a situation where product stewardship plays a large role. At this stage, field servicing may occur, but from an environmental perspective, the product or materials may be disposed or return to the supply chain through the reverse logistics channel. Within this channel, the product can be deemed reusable, recyclable, or remanufacturable. The reverse logistics function may feed directly back to an organization’s internal supply chain or to a vendor, starting the cycle again. Each major supply chain activity consumes energy and generates some level of waste. Reduction in energy usage and waste generation are issues that need to be addressed throughout the supply chain.

Keeping in mind the relationships presented in Figure 28.1, each of these major functions (purchasing, production, outbound logistics, and reverse logistics) will now be discussed.

PURCHASING AND INBOUND LOGISTICS

The purchasing and procurement function involves the acquisition of materials from suppliers to meet the needs of

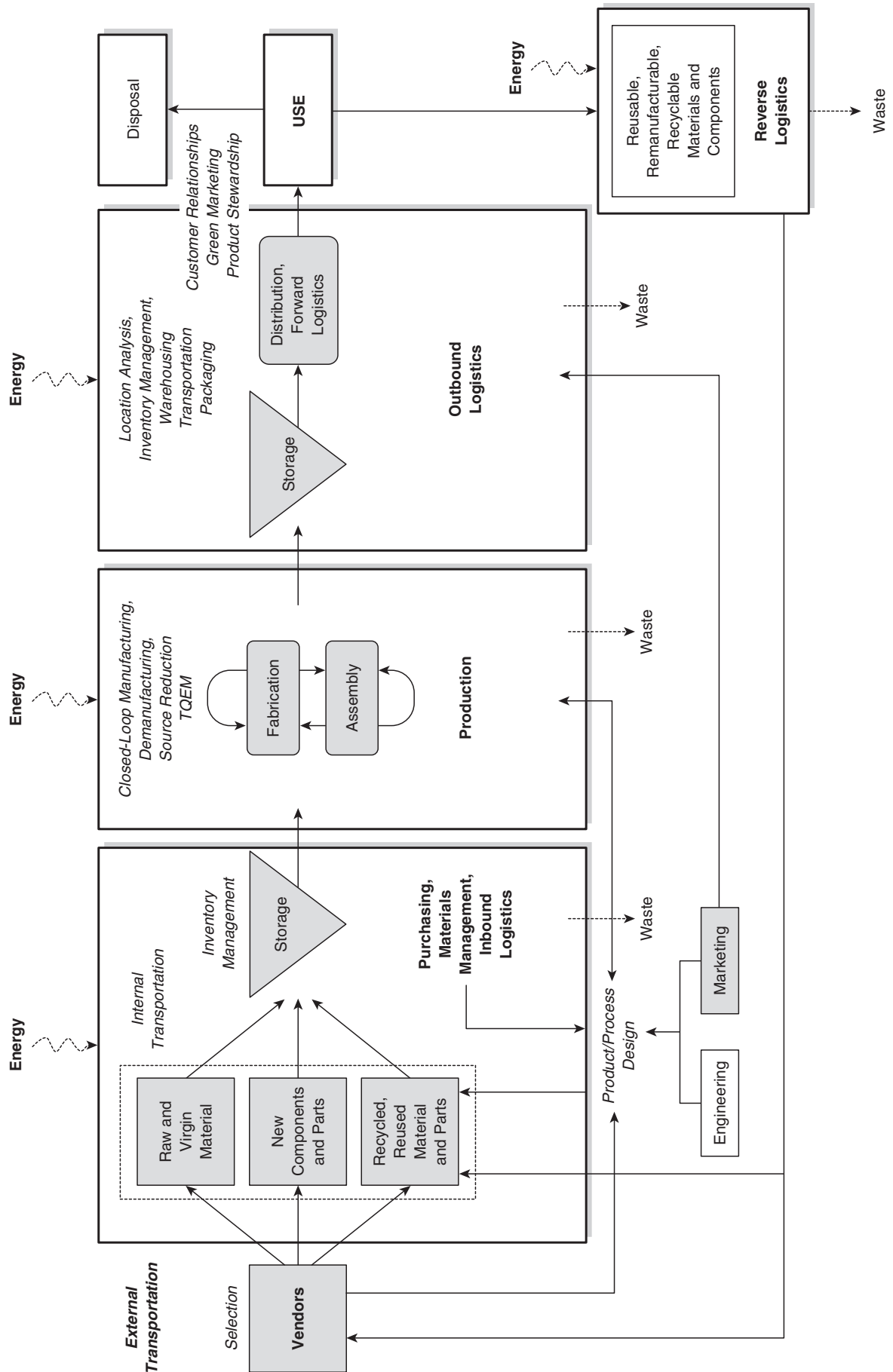


Figure 28.1 Management of Materials and Relationships Among Functions

producing the organizational product or service. Purchasing includes duties such as vendor selection, material selection, outsourcing, negotiation, buying, delivery scheduling, inventory and materials management, and to some extent, involvement in design.

General Green Purchasing Practice

The research in this area has focused on how management practices green purchasing. Empirical surveys have focused on the distribution of practices and anecdotal articles have provided examples of green purchasing practice. Within this area, “policy entrepreneurs” were found to be drivers of the firm’s environmental purchasing activities. Also, the roles of middle managers and upper managers in green purchasing were found to be critical for the success of this function and its adoption by organizations. Green purchasing has a number of environmentally based initiatives that may be incorporated into the purchasing function; these are summarized in Table 28.1. These initiatives include both proactive and reactive measures. To manage these initiatives successfully, a number of factors need to be included in managing the supplier-customer relationship. These factors include long-term strategic relationships and contracts, early involvement by the supplier and customer, building trust, incorporating linkages among levels of management and functions, early involvement of suppliers in design of product and process, joint teams and problem solving, and a focus on value rather than cost. How well and which of these factors aid in the greening of the purchasing function and supply chain require further validation and evaluation. Some of these more complex relationships may overshadow other criteria and goals to overshadow environmental criteria.

Table 28.1 A Listing of Environmentally Based Initiatives for the Purchasing Function

Supplier environmental questionnaires
Supplier environmental audits and assessments
Environmental criteria on approved supplier list
Require suppliers to undertake independent environmental certification
Jointly develop cleaner technology/processes with supplier(s)
Engage suppliers in design for environment product/process innovation
Reduce packaging waste at the customer/supplier interface
Reuse/recycling of materials requiring cooperation with supplier
Reuse initiatives (including buy-backs and leasing)
Conduct LCA with cooperation from suppliers
Seek to influence legislation in cooperation with suppliers
Create supply “club” to collaborate on environmental issues
Coordinate minimization of environmental impact over full supply chain
Build environmental criteria into supplier contract conditions
Audit supplier environmental performance

In some empirical surveys of green practice by the United States and international purchasing managers, corporations are still relatively reactive when integrating environmental issues into supply chain management practices. Some of these findings included a focus on reducing liability and meeting regulations rather than environmental partnering when a buying firm selects suppliers, a focus on recycling, rather than reuse or source reduction (defined by low-density packaging), and scrapping or dumping as the major waste elimination strategy.

From a strategic organizational perspective, decentralization versus centralization of corporate procurement is a concern. A determination of whether a strategic environmental policy can be better maintained throughout an organization with decentralized purchasing decision making. Monitoring green product procurement becomes more complex in a decentralized environment. Yet a decentralized decision environment may also present greater opportunity for purchasers to find and build relationships with geographically closer vendors. This close proximity makes transportation more efficient and less costly and may make monitoring and auditing of supplier activities more effective. In addition, multinational conglomerates who have a broad product family and many subdivisions may find it more feasible to allow divisions to determine their own supplier and purchasing environmental requirements. Within this decentralization, not all portions of an organization may include supplier impact programs.

There is also a concern of who should be responsible for environmental issues in purchasing. There is an organizational decision issue on whether an organization’s purchasing department should be responsible for managing the environmental performance of the supply chain. Since they are responsible for cost, delivery, and quality issues, is it fair to add another level of responsibility to this function (especially with the management of environmental surveys of their suppliers)? A solution may be to help improve supplier environmental performance rather than just an evaluation.

Purchasing managers believe that economic reasons form the largest barrier for implementing green purchasing. Many managers also believe that recycled materials are more expensive and scarce and thus provide economic and operational barriers to purchasing these types of materials. A major reason why organizations continue use of new materials is because customers require them to use virgin material.

Public policy is a major driver of environmental and social decisions in organizations, whether or not costs of recycled goods are more expensive or cheaper. Some have argued that the cost of recycled products may be greater due to the expense of reverse logistics channels with estimates that reverse logistics channels and processes may add 30% or more to the cost of a recycled product. Yet for some products and commodities, recycled material can be less expensive to purchase than comparable virgin materials

can be. Part of the difficulty is that estimation of costs (and other factors) cannot be completed without more effective LCA type tools for analysis of total costs. Various products and materials will also have differing cost structures resulting in dissimilar perceptions on cost, probably contingent on product type and industry. In addition, social costs (externalities) are not typically included in the valuation and costs of products and materials.

Another issue in purchasing is the selection of materials or vendors. One of the requirements in this area is to determine what is and is not green. For example, the decision to purchase materials that are less toxic versus those that may mean more energy efficiency cannot easily be determined. To help address this some tools based on LCA and DFE have been developed. Yet these are still very imperfect tools, models, and philosophies. Subjectivity and judgment play a large role. An issue is whether purchasing managers are motivated and capable of evaluating and selecting environmentally preferable materials and vendors.

Vendor Selection

One of the more important functions of green purchasing has to do with the external relationships of the purchasing function, especially for selection of vendors. Much of the vendor selection research has focused on whether companies include environmental criteria in their selection processes, the criteria for selection, and tools for their selection. This research has been primarily anecdotal and prescriptive. Descriptive, broad, empirical research has been minimal.

Purchasing managers typically favor reactive measures for evaluation (e.g., hazardous waste management, public disclosures, and meeting regulatory requirements). A primary reason for reactive measures has to do with liability concerns (e.g., superfund penalties may be traced to customers of bad suppliers) as well as making sure that the supplier will be available for the long run to help maintain continuity of supplies.

Supplier selection decision tools have been grouped into five sets of tools: (a) the categorical method, (b) the weighted point method, (c) the matrix approach, (d) the vendor profile analysis (VPA) method, and (e) analytical hierarchy process (AHP) based approaches. Only one of the models (i.e., AHP) contains both quantitative and qualitative factors. The literature on supplier selection has not explicitly included and evaluated environmental factors and much work needs to be completed in this area. Typically, incorporating these additional factors in decision models would be up to management and decision and could be completed with little additional effort. Integrate risk analysis into vendor selection is also needs to be considered for green supply chains. This goal is not typically covered in approaches that are more traditional.

Certification (selection) requirements may be easier to address for organizations by requiring some form of third-

party certification, specifically ISO 14001 certification. ISO 14001 certification may be adequate for organizations that do not wish to audit or evaluate suppliers for selection. Yet a number of suppliers (primarily small suppliers) are not necessarily supportive of an ISO 14001 certification requirement. Imposing a certification standard on a small supplier may actually have negative effects. Obtaining certification is time-consuming and expensive. They argue that a small supplier may have better business and environmental payback by putting resources into actual process improvements rather than by developing an environmental management system with its supporting bureaucracy, and in the some cases, a small supplier might be forced out of business because it lacks the resources needed to meet buyer environmental requirements. A small supplier may wish to acquire ISO 14001 certification so it does not have to meet varying environmental vendor certifications from multiple customers. A potential problem with forging organizational vendor certification and evaluation in favor of ISO 14001 certification, is that there is no guarantee that ISO 14001 organizations are compliant, much less environmentally proactive. There are other approaches for ISO 14001 certification where groups or networks of smaller enterprises may aggregate their resources to get one certification that would cover all of them. This collective ISO 14000 certification has been has also been called the “Hackefors” model.

Inbound Logistics

One of the issues in delivery (and production) is the use of just-in-time (JIT) practice. This practice is meant to reduce inventory, thus eliminating costs and waste. For example, less storage and warehouse space is needed. This practice reduces the necessary overhead and resource consumption needed to manage this inventory. JIT seems to be an environmentally sound practice, yet when considered overall, the environmental savings can be deceptive. For example, the major method to lessen the amount of inventory is to deliver and produce in small batches. These smaller batches mean more deliveries, thus raising fuel consumption and traffic congestion. Investigation of these trade-offs is still occurring in the literature and requires significantly more investigation before consensus can be reached. But some of these issues are mitigated with such practices as on-site suppliers or those that are in close proximity for JIT reasons. Another factor related to JIT and supplier management is that fewer suppliers are usually used in a JIT environment. This means better forecasting and fuller loads could be planned. Of course, this delivery approach will be dependent on demand levels and characteristics.

Another issue facing inbound logistics (and outbound as well) is freight consolidation. Waiting for freight to become a full load (full truckload or trainload) may lead to longer lead times but may yield savings and be environmentally preferable. Another issue is mode selection. Some transport

modes like rail and barge use less energy or use energy more efficiently than other modes like road haulage and air cargo. In this case, flexibility, timing, and speed are trade-offs to cost and environmental factors. The transport mode decision determines which transport option to use and often affects traffic congestion and air pollution both directly and indirectly. Carrier selection, a part of supplier selection, is an important inbound logistics decision. Transportation is important to all industries.

The major question in these examples is whether companies are capable and willing to make the trade-offs. An issue that arises relates to any major environmental issue: When does the environment play a large enough role to overcome other performance metrics? As well, the addition of a third party (third-party carriers and logistics managers are quite popular) into the decision process makes it more difficult for the vendor-customer relationship. Who makes the decision on mode and freight consolidation, especially when organizations may have differing environmental strategies?

PRODUCTION

The manufacturing and production function's emergent role in corporate environmental management has been addressed in the literature. The internal supply chain's performance can best be managed within this function. Since a number of reviews on environmentally conscious manufacturing have been completed, we will focus only on a few of the major principles in this function.

TQEM, ISO 14001, and other EMS play a large role in managing the internal operations of an organization. Similar to the concept of total quality management (TQM), it is hard to get a standardized definition and practice of TQEM and EMS. Many of the components of ISO 14001 build on TQEM-like concepts as well. TQEM is a managerial philosophy rather than a hard technology or program, with a number of tenets (some of which are also espoused in dealing with suppliers as well). Some of the tenets of TQEM include empowerment of employees, continuous improvement, team efforts, interfunctional collaboration, and leadership elements. There are issues in each of these areas; one of the most important of these areas, from a managerial perspective, is empowerment and employee involvement.

Empowerment allows workers to attain responsibility for decision making. Whether employees are capable of making these environmental decisions is an important barrier. Liability and corporate risk for such sensitive and sometimes technically complex issues are part of the environmental decisions that need to be considered when incorporating employee empowerment. Similar to quality control, which has evolved to include everyone in an organization, can environmental decisions be allowed to become as pervasive? These questions are critical since employee involvement

is a practice that researchers and practitioners believe are central to pollution prevention in the production function. In one study of automotive manufacturers, worker participation in environmental decisions was emphasized. But even with this emphasis, findings showed that the amount of worker participation (and its significance) was much less than the supposed involvement as mentioned by management was. Inadequate technical expertise in environmental issues is a primary reason for limited worker participation and environmental decision empowerment. This study also points to a need for a better definition of worker participation, especially when it comes to environmental issues. Participation can range from putting an item into a recyclable bin to serving on a design for environment project.

The principles of demanufacturing are also of importance within the production portion of the environmental supply chain. Demanufacturing includes disassembly, remanufacturing, and material recovery principles. The investigations in this area have predominately been on the development of tools to aid in the management of these processes. The two major categories of tools include those that aid in designing products for demanufacturing (disassembly) and those used to optimize or control the demanufacturing process. The effectiveness of demanufacturing from an environmental and economic perspective is still in its infancy. Currently, in a number of industries, remanufacturing and reverse logistics are relatively novel concepts. Since this operation is not as mature, a number of inefficiencies still exist since organizations will not heavily invest in the operation until marginal costs are reduced through economies of scale improvements. To be economically feasible, operationally feasible, and environmentally benign, the systems flowing into and within the organizations operations need further development. The determination of whether the lengthening of the life of these products and materials is worth the additional efforts of energy use and waste generation has yet to be fully explored.

Closed-loop manufacturing is one of the internal measures that can be used to improve the environmental performance of the internal supply chain. The philosophy of zero emissions (similar to zero defects of many TQM programs) is what drives internal closed-loop manufacturing practice. Closed-loop manufacturing is a process of producing products with no negative environmental impact. Currently, much of the emphasis on closed-loop manufacturing is on development of supporting technology. This internal loop helps to lessen some waste streams that flow from the production function, but may require additional energy and resources to function and maintain. As part of the source-reduction philosophy closed-loop manufacturing a related issue to the zero-emissions philosophy is substitutability, which has become much more popular with design for the environment linkages. For example, substitutes for environmentally toxic materials such as solvents with aqueous solution for processes and powder paint for liquid paint are examples of using substitutes to reduce and eliminate emissions. The

determination of life cycle impacts of these substitutes is still a problematic proposition. The investigation of managing in this environment seems to be almost nonexistent.

DISTRIBUTION AND OUTBOUND LOGISTICS

Whereas purchasing and inbound logistics focus on managing the vendor-organization relationships of the supply chain, the distribution, and outbound logistics function is meant to address the organization-customer relationship dyad. Customer relationships within corporate environmental practices include green marketing, product stewardship, and outbound logistics topics.

Customer Relationships

Customer relationships are greatly influenced by green marketing policies. Some studies have found that ultimate individual consumer interest in the environment and environmentally sound products is quite substantial, even though there has been a slight decline over the years. This interest along with government regulations are two external pressures that flow throughout the supply chain. Studies have shown that many companies are putting pressure on their suppliers and suppliers are listening to corporate customers as well as the end user.

One of the controversies in green marketing and customer relationships is whether customer interest in environmentally sound products relates to actual purchase. Various studies have shown that interest is usually higher than actual purchase. This argument can be made for either individual consumers or corporate and industrial buyers. Even though this issue has been shown to be an individual consumer phenomenon, the extension to corporate buyers needs a more complete evaluation.

Some studies have shown that individual consumers and business-to-business consumers (e.g., purchasing agents) have similar attitudes, actual behavior, and understanding of purchasing green products. Other studies argue that business consumers are more aware of environmental and green product characteristics and issues than individual consumers are. Whether or not these market groups have equal levels and understanding of environmental issues with regard to purchasing products will influence organizational marketing strategies and practices.

Another issue related to marketing to customers is to understand their hierarchy of criteria for purchasing. Price, quality, and convenience criteria are still at the top of this hierarchy. An issue that green marketers face is how to make environmental criteria more important. Marketers have several options to achieve this goal including increasing the importance of ecological compatibility (e.g., explaining the effects of poor environmental products), changing beliefs about a particular product (e.g., disposable

diapers may actually be more environmentally conscious than cloth diapers), and explaining the additional environmental benefits in addition to the other criteria. Incorporating money-back guarantees to overcome some of the concerns about quality/price of environmentally beneficial products may be a method to increase their attractiveness. These recommendations still require significant study. Differing definitions and expectations of buying organizations may have some impact on the green marketing strategy of an organization.

Product stewardship also plays a significant role in an organization's relationships with its customers. Similar to the concepts of DFE, LCA, and TQEM, product stewardship principles affect the broader supply chain. Product stewardship has been defined as the minimization of the product's harmful effects on the environment in every stage of its product life cycle from design and development to manufacturing, distribution, use, and disposal. The practice and literature seems to focus on the delivery and take back aspects of product stewardship and customer relationships. This is a reason that we have left product stewardship discussion until this function of the supply chain. Practically, this concept is one of the foundational elements of the chemical industry's *Responsible Care* program. Under *Responsible Care* principles, chemical producers are required to evaluate the handling of their products by customers to ensure, where possible, that safety measures are in place.

Product stewardship principles have brought innovation to the way business is completed in the supply chain. One such example is the servicizing of products. Servicizing is especially true in industries such as the chemical industry whose materials and products contain significantly hazardous and environmentally sensitive materials. Servicizing includes changing transactions from a volume and sales orientation to a service orientation. As an example, instead of selling solvents to a manufacturer for cleaning circuit boards, a chemical supplier might manage the manufacturer's cleaning. For managing the cleaning operation, the supplier would be paid on a "per-circuit-board-cleaned" basis. This shift in focus from sales to service creates a profit incentive for the supplier to clean more circuit boards with fewer chemicals. In some industrial sectors, especially automobile manufacturing, this shift from chemical sales to services has already been established. This service orientation, similar to leases for product take-back measures for electronic equipment, requires significant change in management and accounting measures used by an organization.

Outbound Logistics

The outbound logistics function has numerous implications for greening the logistics function. The design of a logistics network and its planning are two strategic issues facing logistics managers in this function. Many trade-off decisions need to be made with regard to the firm's market, customer, product, and logistical resources. Examples of

typical logistics decisions include options such as direct versus hub-and-spoke delivery, central warehousing or distributed network, intermodal or single mode transportation, and outsourcing third-party services or private fleet for distribution and transportation. Some of the design and management criteria that support environmental planning in this area include fewer shipments, less handling, shorter movements, more direct routes, and better space utilization. But each of these issues includes trade-offs among delivery time, responsiveness, quality and cost, as well as environmental performance.

Warehousing and delivery packaging design are two important issues in outbound (and inbound) logistics and distribution. Warehousing, other than land use requirements, also generates a significant portion of packaging waste in the supply chain. Standardized reusable containers, good warehouse layouts, and easy information access all cut storage and retrieval movements, save on operating costs, and are environmentally sound. Freight consolidation functions and “breakbulk” operations carried out in warehouses also have the potential of utilizing transport capacity more efficiently, thus minimizing the environmental impact of the outbound transport system.

Packaging has been a very sensitive issue among European manufacturers and consumers. The presence of packaging take-back laws has caused many organizations to rethink the design of their product’s packaging as well as how to manage the packaging delivery and logistics, once it is used. One controversy that seems to be growing in the packaging area is whether single use packaging is more environmentally sound than reusable packaging. For example, the Association for Beverage Cartons and the Environment has reported no specific benefit for using either type of packaging after 15 studies were undertaken. Part of the difficulty in determining which part of this debate is correct is the poor development of LCA tools.

Another packaging debate focuses on consumer perception and acceptance of green packaging. While most people regarded packaging as bad for the environment, they still chose packaged over unpackaged alternatives when buying. Some companies, after instilling more environmentally preferable packaging, had increases in their market shares—one such company is Nestle Corporation. Packaging choice relates to consumer attitudes and behavior. Whether these situations are applicable to industrial buyers and buying still requires investigation. A study of environmental packaging and its influence on industrial buying is an issue that has not received much attention. Some issues relevant to purchasing practice after passage of packaging laws have been investigated in the literature.

REVERSE LOGISTICS

Reverse logistics incorporates the return of materials, components, and products back into the “forward logistics”

chain. Reverse logistics is the return, upstream movement of a good or material resulting from reuse, recycling, or disposal with the minimization of waste, which results in more efficient forward and reverse distribution processes. It has been the function that “closes the supply chain loop.” There is significant research occurring this time related to closing this loop.

Reverse logistics operations include the following major steps: collection, separation, densification or disassembly, transitional processing, delivery, and integration. The operational emphasis is dependent on the type of material or component that flows in the reverse logistics channel. For example, disassembly will be required for copy machines, whereas plastic bottles would require densification.

Since reverse logistics is a competency that does not exist in most original equipment manufacturers and organizations, outsourcing to third-party logistics specialty companies to manage operations in this function have become very popular. The development of such third party service providers may provide potential competition to original equipment manufacturers, if these reverse logistics organizations decide to demanufacture and remanufacture products.

Pohlen and Farris (1992) summarized some of the practical issues facing reverse logistics: (a) most logistics systems are ill equipped to handle product movement in a reverse channel; (b) reverse distribution costs may be up to 9 times higher than moving the same product from producer to consumer; and (c) returned goods often cannot be transported, stored, and/or handled in the same manner as in the forward channel. In addition, Bettac, Maas, Beullens, and Bopp (1999) referenced a German study by Jünemann (1995), which found that reverse distribution channels may be up to 14 times longer transportation distances than regular disposal and incineration. In their study of the furniture industry, Handfield, Walton, Seegers, and Melnyk (1997) found that reverse logistics scored lowest, in terms of progress, among all the functional areas. This finding supports the issue of the immaturity of this function and also provides ample opportunity for improvements and growth.

A significant amount of work in this field has focused on analytical (mathematical) modeling. This perspective of reverse logistics incorporates a number of managerial and modeling issues. Two major issues include inventory and production planning management. The inventory management of these systems is difficult since return logistics flows are more difficult to forecast requiring increased flexibility in terms of capacity and equipment, as well as additional safety stocks for inventory to manage the variability and uncertainty. The production planning area is more closely related to demanufacturing issues presented earlier. In summary, tools and models for disassembly scheduling, planning, and control are still in their infancy. The proposed approaches have looked at altering standard manufacturing models like MRP systems. A series of quantitative model-

ing approaches for such issues as network design, systems evaluation, and so forth were not part of this review of the literature. Noting that a number of models in this area are adjustments to current models, a question arises, similar to the issue on vendor selection models, of whether new models need to be developed.

Other than quantitative modeling approaches, the reverse logistics research is the most immature of all the functions discussed in this paper. Principles for managing reverse logistics channels have yet to be developed, much less investigated, but it is the fastest growing area.

EMERGING ISSUES

A number of emerging issues that encompass environmental supply chain management or that are common across the supply chain are briefly presented.

Small Companies and Environmental Supply Chain Management

Small organizations' voluntary involvement in environmental practices in the supply chain is rare. Small manufacturers do have some basic environmental practices (especially recycling initiatives) in their organizations. Investigation of strategies to help small organizations gain environmental savings is an emergent area of research and emphasis. Including savings in the form of less expensive environmental management infrastructure and services, accelerated and less expensive information flows, decreased incidence and intensity of land-use conflicts, and an enhanced ability on the part of the public sector to enforce environmental regulations. Development of interfirm networks could be a way to help small organizations become more effective environmental partners.

Government and Legislative Roles in the Green Supply Chain

Regulatory schemes have been quite powerful in development of environmental supply chains. For example, the Waste Electrical and Electronic Equipment (WEEE), Restriction on Hazardous Substances (ROHS), and the Registration, Evaluation, and Authorisation of Chemicals (REACH) directives in the Europe Union have had significant influence on organizations investigating and improving their global environmental supply chain management practices. The influences at a policy level of voluntary, performance-based, market-based, or command-and-control mechanisms for development of environmental supply chain management can provide great insights into the types of regulatory pressures that will make supply chains more environmentally sound. For example, government-led green purchasing initiatives have occurred at all levels of government. The basic idea is that by purchasing large quantities and selecting preferred

suppliers, the government could shift product markets to favor one product type over another. Thus, by government purchases providing an earlier and larger market for green products, it allows firms to lower costs through scale economies and learning-by-doing.

Integral and Emerging Issues

Much of the research completed on environmental supply chain management has been narrowly focused on a single functional area. A complete and integrative evaluation and monitoring of performance is required. A systems perspective has yet to permeate the literature. The corporate environmental management and practices are still evolving with significant areas for further research and development in DFE, LCA, and product stewardship. The representation of the supply chain and its topics in Figure 28.1 itself is not exhaustive. Additional factors and issues can be integrated. How to make sense of all this and the attempt to develop theory to explain various managerial phenomena is a difficult proposition. These theoretical and investigatory issues can be grouped into strategic and operational levels of analysis (with some overlap). The more strategically oriented issues include industry differences, evolving organizational forms, linkage to environmental strategy, and the relationship between organizational performance and green supply chains. Operationally oriented issues include performance measurement, third-party certification, product life cycles, and LCA.

Industry Differences

The investigation of industry differences in environmental supply chain practices is also an issue that has been observed in each of the functions. Industrial differences in how organizations incorporate environmental strategy. Heterogeneous stakeholder pressures will cause industries to respond differently to environmental pressures. Some industries will face greater regulatory pressures to incorporate environmental practices, while others may face competitive forces to alter environmental practices. But an additional difficulty within supply chains are variations in the industry involvement; for example, it is difficult to only have a supply chain made up of chemical industry companies.

Evolving Organizational Forms

Part of organizational supply chain formation will be affected by new organizational forms defined as networked or virtual organizations. How to form networked organizations with minimal environmental impact is an issue. These organizations are meant to form and dissolve rapidly. Responsibility for any environmentally malignant behavior by the company or its members may provide unforeseen liabilities and consequences, with responsibilities of this behavior difficult to trace. Having an initial environmental

strategy, which drove the formation and operations of this organization, is not usually one of the concerns of forming these types of organizations.

Linkage to Environmental Strategy

The influence of varying corporate environmental strategies with different members of the supply chain having diverse environmental strategies arises in environmental supply chain management. Incongruity of supply chain member environmental strategies may cause the whole supply chain environmental performance to be less efficient and effective due to poor local performance (the weakest link argument).

The Relationship Between Organizational Performance and Green Supply Chains

The basic question here is whether environmental supply chain management improves organizational environmental, economic, and/or operational performance. There have been investigations of organizational corporate performance and environmental performance; yet these studies have found conflicting evidence (at the strategic level of analysis) between environmental management and organizational performance. Ample opportunity exists in this area to identify how various environmental management policies and principles effect corporate performance, as well as why variations in results have been occurring.

Performance Measurement

How to measure supply chain performance in general is an emerging issue in basic supply chain management practice. Design and implementation of environmental performance measures into the supply chain has been rarely discussed much less implemented in the supply chain management literature. Investigations of tools, practices, metrics, and methodologies are needed in this area.

Product Life Cycles

The dynamic nature of the product life cycle and its implications on various environmental supply chain practices can be significant. The organizational emphasis on which functions an organization develops and supports in the green supply chain is dependent on the product's (and industry's) marketing life cycle. That is, if a product is in the early innovation stages or later maturity or decline stages may influence whether the organization is putting more emphasis on the procurement stage (selecting appropriate vendors) or on reverse logistics (enough products and material exist for efficient reverse logistics channels). Thus, organizations planning for long-term green supply chains need to be aware of the necessary requirements for strengthening the supply chain as it matures.

Life Cycle Assessment

The issue of LCA looms large in each of the functions. The lack of appropriate LCA tools makes the appropriate decision of product and material selection, supplier selection, production technology, delivery mechanism, and transportation selection difficult to determine. How well decisions perform environmentally, either practically or for research measurement purposes, all require effective LCA measurements. Yet suppliers and organizations find LCA is one of the most problematic aspects of managing the supply chain. Managing the overall supply chain without agreed upon LCA measures will require more art than science.

Information and knowledge management. The role of interorganizational information systems and transferring of knowledge and learning across the supply chain has significant practical implications. The movement of material through the supply chain is quite evident; the movement of information and knowledge is just as critical. Ranging from LCA information to inventory data, the use of information for designing, managing, planning, and implementing environmental supply chains arises. E-commerce plays a large role, and its implications are still under evaluation. For example, e-commerce requires numerous point transportation (causing greater environmental burden) but also shares information of excess product and material that may be useful to other organizations (lessening waste). These and numerous other trade-offs require more investigation.

Sustainability. The current corporate social responsibility focus of supply chains has extended to go beyond just environmental and economic factors. Researchers and practitioners are incorporating nonenvironmental social factors into various functions of the supply chain. For example, sweatshop and child labor, equity, and poverty issues that focus on human-centered social issues have gained in importance. The difficulty of incorporating general sustainability topics in with environmental issues in the supply chain is the possibility of losing focus on the environmental issues. The evaluation of the relationships of these "triple bottom line" items is an area of significant research within sustainability and corporate social responsibility.

SUMMARY AND CONCLUSION

We have reviewed a number of issues related to environmental supply chains and their management. The structure of the presentation was based on four major functions that could be considered as core activities within the environmental supply chain. These functions included purchasing and inbound logistics, production, distribution and outbound logistics, and reverse logistics. A number of integrative issues potentially affecting each of these functional areas were then presented. Even in this relatively new field of environmental supply chain management a number of debates have emerged, within and between functions. It

has been found that most of the literature on environmental supply chain management has been descriptive, anecdotal, and/or prescriptive. Much of the literature has investigated small portions of the whole supply chain. With only a few empirical studies, which have been exploratory, the amount of generalizable knowledge and theory development in this area is almost nonexistent. To truly address these emerging debates and issues, effective research agendas and methodologies will be required. Even then, the debates may never truly be answered. As in all environmentally based research arenas, tools, techniques, and theory from a number of disciplines will be required for a truly complete study of this area.

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PART V

STRATEGY IN A FAST AND NETWORKED WORLD

STRATEGIC DECISIONS IN HIGH-VELOCITY CONTEXTS

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One of the main challenges for managers in the 21st century is the correct identification and exploitation of business opportunities in the face of “high velocity” such as rapidly changing market conditions. This challenge is particularly crucial in “blockbuster” economies, where relatively low earnings typically follow very high levels of upfront investments, and where only a handful of economic actors capture the most returns in clear “winners take all” environments. Thus, in the pharmaceutical sector, drug discovery is often frustratingly unsuccessful due to tedious developmental, market or regulatory complexities, and very few products eventually take to market and prove profitable (Stonebraker, 2002). Similarly, oil companies never know for sure whether a well will contain oil, and if so, how much they will be able to drill out of it. Faced with the decision “to drill or not to drill,” they commonly base their predictions on a small set of probabilistic seismic data (Skaf, 1999). And in the cultural industries (e.g., recorded film and music), the managerial evaluation of creative talent only generates a small number of “hits” every year, which are all the more difficult to predict as the underlying technology is currently evolving at a very fast pace, just like cultural consumers’ preferences. In the music industry, only less than 10% of artists’ records signed by a major record company ever break even (Vogel, 2004). Dealing with uncertainty is increasingly complex, in particular in such

high-velocity contexts, where the pace and rate of discontinuous change in both internal and external firm conditions (including change in demand, competitors, technology, and regulation) is reflected in the degree of rationality characterizing the organization’s decision capability.

Taking the managerial challenge of coping with extreme uncertainty into consideration, past strategy research has argued that key drivers for market success and long-term competitive advantage lie in the development and deployment of superior organizational resources, defined as inputs in the firm’s production processes (Amit & Schoemaker, 1993) and capabilities. The latter are defined as unique configurations of organizational resources (Itami & Roehl, 1987; Amit & Schoemaker, 1993) that combine human skills and technological expertise and determine specific problem-finding or problem-solving heuristics (Hitt & Tyler, 1991; Teece, Pisano, & Shuen, 1997). Resource-based view (RBV) authors also emphasize the importance of embedding resources and capabilities in a higher level, strategic firm architecture and “dominant logic” (Prahalad & Bettis, 1986) and establishing an organizational culture of learning and improvement in order to continuously nurture and expand core capabilities (Prahalad & Hamel, 1990).

Behavioral theories of the firm consider organizations as hierarchical accumulations of decisions. Strategic decisions at the top of this hierarchy also have a larger impact on firm

success than operational decisions at its bottom (Bower & Gilbert, 2005). Following Langley et al. (1995) we refer to a “decision” as an organizational commitment to action and use “importance” as a criterion for identifying “strategic” decisions (Eisenhardt & Zbaracki, 1992). Recent research argues that strategic decision processes can be understood as dynamic capabilities (Eisenhardt, 2001). In particular, Bower and Gilbert (2005) suggest that at the core of these decision capabilities lies the organizational task of linking strategy making to the allocation of organizational resources and, hence, configuring the tacit decision skills of key employees with the organization’s explicit, formal decision-making structure (e.g., frame, technology, tools, and processes). The combination of both tacit, managerial intuition and explicit, rational organizational processes characterizes strategic choice in organizations and describes how the latter process information in the face of external and internal uncertainty. A firm’s strategic decision-making system may therefore be defined as a dynamic capability (Eisenhardt, 2001) and may be assessed directly in terms of immediate effectiveness of its outcome and indirectly (related to its potential for creating and sustaining a competitive advantage) in terms of firm performance.

In consideration of these developments, how strategic decision capabilities should be identified and managed is one of the fundamental questions that senior executives face in high-velocity contexts. The content of this chapter addresses this challenge by discussing current research findings in the RBV and the strategic decision-making theory and by providing an integrated view to characterize the fundamental components of such capabilities. We start by discussing the notion of uncertainty and its impact on the degree of rationality in strategic decision making. In the next section of this chapter, we introduce and define the four fundamental components of strategic decision capabilities. Among these, a higher level strategic decision-making system embedding specific decision processes is essential. We introduce it, before shifting our focus to the firm’s tacit and explicit decision competences and providing an overview of their general characteristics as moderators of decision rationality. In the next section, we discuss key behavioral issues in the strategic choice process, which result from the interaction between the firm’s explicit and tacit decision competences. Last, we summarize our discussion on strategic decision capabilities and offer suggestions for further research.

THE ROLE OF UNCERTAINTY IN STRATEGIC DECISION MAKING

Definitions

This chapter focuses on two fundamental characteristics of uncertainty: ambiguity and complexity, both internal and external (see for instance Cohen, March, & Olsen, 1972; Reed & De Fillippi, 1990; Porter, 1990). While ambiguity

addresses the difficulty of recognizing causality behind certain observable processes, complexity refers to the amount of information in the decision maker’s environment and accounts for his or her available time frame and cognitive ability to identify and process relevant types of data. Internal uncertainty relates to all those resources, processes, skills, and technologies that reside inside the organization. In contrast, external uncertainty comprises all regulatory, technological, and market-related factors likely to impact the choice process.

Uncertainty is the difference between the information needed by and available to the decision maker (Fredrickson & Mitchell, 1984). The external environment can increase or decrease this gap. Decision rationality is the firm’s ability to act in pursuit of its goals in light of internal causal ambiguity and external complexity (Rajagopalan, Rasheed, & Datta, 1993; Priem, Rasheed, & Kotulic, 1995). It is therefore closely linked to the firm’s dynamic environment and performance. Last, uncertainty is usually given *ex ante*, and the decision maker finds it difficult to control, in particular considering external complexity.

The stability (Fredrickson & Iaquinto, 1989) and velocity (Bourgeois & Eisenhardt, 1988) of an organization’s external environment play a crucial role in achieving effective decision outcomes. While environmental stability concerns the likelihood that critical pieces of information are accessible (Fredrickson & Mitchell, 1984), environmental “velocity” refers to the pace and rate of discontinuous change in demand, competitors, technology, and regulation that result in flawed, incomplete information available to reach a decision (Bourgeois & Eisenhardt, 1988). The concept of “comprehensiveness” describes the extent to which strategic decision processes in a particular environment follow a rational planning process (Fredrickson & Iaquinto, 1989). There is no consensus in research on the decision-specific factors that determine ambiguity and complexity. As a result, researchers refer to a number of different concepts. Among them, the level of technical uncertainty, degree of outcome uncertainty, or criticalness to decision makers (Rajagopalan et al., 1993); multiple conflicting objectives (Clemen, 2003); decision urgency (Pinfield, 1986); decision motive (Fredrickson, 1985) information source (Schilit & Paine, 1987), and problem specification (Volkema, 1986) have all been argued to have a direct impact on decision process characteristics (Rajagopalan et al., 1993).

UNCERTAINTY AND RATIONALITY

As stated in the introduction to this chapter, the degree of rationality in an organization’s decision-making capability mirrors the pace and rate of discontinuous change in both internal and external firm conditions in high-velocity contexts. It is also a central debate in research on strategic decision making. Traditionally, researchers split into two camps.

Defenders of the first camp come mainly from the strategy formulation tradition. They believe that an alignment

between the firm's external environment and internal structure and processes is best achieved using a formal, rational planning process (see for instance Andrews, 1971). Their fundamental assumptions are that decision makers have clear, known objectives, that they can take difficult decisions in a rational way by gathering relevant information and developing sets of alternative courses of action, and that they can choose the best alternative out of these courses of action (Eisenhardt & Zbaracki, 1992). The rational tradition of decision-making research is rooted in classical economic theory and shares its core postulate that human beings are utility maximizers (Kahneman & Tversky, 1979). In particular, these models assume that decision makers act as "economic men" who are not restricted by their cognitive limitations, emotions, or other individual characteristics.

The second camp gathers proponents of Simon's (1955) bounded rationality view and of Cyert and March's (1963) behavioral theory of the firm. They challenge this rational model by emphasizing cognitive limitations in human behavior and by arguing that goals can be inconsistent and relevant information difficult to get. In particular, information can be ambiguous or exceed the cognitive capacity of decision makers, making the choice of an optimal course of action impossible. In an extreme form of uncertainty, Cohen, March, and Olsen (1972) suggest a garbage-can model of organizational anarchy, in which problems, solutions, and decision makers are disconnected and outcomes can be understood as the results of several relatively independent streams of events within the organization. More moderate authors suggest that managers can only create strategies in small, incremental steps (Lindblom, 1959; Fredrickson & Mitchell, 1984). Kahneman and Tversky (1979) also provide significant evidence of differences in individual decision makers' attitudes to risk. Under the notion of "prospect theory," they reject the definition of individuals as purely rational utility maximizers and argue that decision makers adjust their attitudes to risks according to factors such as "current state of wealth," or "win or loss framing."

Subsequent research (see for instance Fredrickson & Mitchell, 1984) reconciles both camps and suggests that the adoption of rational or incremental decision behavior is related to key characteristics of the firm's external environment. It thereby proposes that the relationship between firm performance and decision comprehensiveness is negative in unstable environments and positive in stable environments. Other approaches no longer perceive perfect and bounded rationality in strategic decisions as a dichotomy, but understand rationality as a cognitive continuum on which decision models can be positioned. They thus acknowledge the simultaneous existence of both aspects and present substantial empirical evidence of at least partially rational structures in highly uncertain environments (Eisenhardt & Zbaracki, 1992). Bourgeois and Eisenhardt (1988) and Eisenhardt (1989) argue that rationality is multidimensional. In order to be successful, decision makers in high-velocity environments consequently need to adopt rational behaviors in some ways, but not in others. Simi-

larly, Fredrickson and Iaquinto (1989) show that rationality creeps in as organizational size, top management tenure, or top management team continuity increase. Building on this view, subsequent studies investigate specific aspects of rationality (Eisenhardt, 1989) and define an optimal degree of rationality on the cognitive continuum (Dean & Sharfman, 1996). Some authors further suggest that firms need to develop their managers' "intuition," which is defined as a skill that translates experience into action (Simon, 1987; Klein & Weick, 2000; Miller & Ireland, 2005) to improve the efficiency of their strategic decision-making processes (Eisenhardt, 1989; Dean & Sharfman, 1996).

COMPONENTS OF STRATEGIC DECISION CAPABILITIES

Definitions

As previously stated, Eisenhardt (2001) suggests that strategic decisions can be understood as dynamic firm capabilities that hold the potential to be sources of sustainable competitive advantages. The notion of decision capabilities proposed next builds on her perspective and draws on concepts from both the RBV and decision-making theory.

By definition, the specific strategic decision processes that are of superior value to the organization may be interpreted as "core" capabilities (Prahalad & Hamel, 1990). The notion of "organizational importance" also implies that the actions to be taken, resources to be committed, and any precedents set when a strategic decision is implemented must critically affect the organization's internal and external ability to compete (Eisenhardt & Zbaracki, 1992). In practice, organizational decision processes represent such "core capabilities" if they are embedded in a higher level strategic decision-making system, which clearly outlines the underlying firm strategy and ensures a culture of learning within the organization (Prahalad & Hamel, 1990; Eisenhardt & Martin, 2000).

The immediate value of a decision-core capability can be assessed in terms of decision quality, as evidenced by Matheson and Matheson's (1998) large-scale demonstration of the existence of a link between the quality of the decision capability dimensions and superior firm performance within hundreds of organizations in highly uncertain environments. Similarly, Amason (1996) describes decision quality as a key driver of sustainable performance. Both studies argue that quality does not refer to a particular outcome of the decision process, but rather to the effectiveness and efficiency of this process in view of the firm's limited resources. Other researchers assess the quality of a decision process on specific individual dimensions (see for instance Eisenhardt & Bourgeois, 1988 on velocity; Fredrickson & Mitchell, 1984 on rationality; Pfeffer & Salancik, 1974 on power and politics; or Hambrick & Mason, 1984 on upper echelons). So far, only a few studies have analyzed the concept of decision quality as a multiplicity of dimensions. Matheson

and Matheson (1998) argue that the holistic effectiveness of strategic decisions must be described and evaluated in terms of the cognitive ability of the decision makers and of their interaction during the decision process. Since the different components of decision capabilities are closely linked, they conclude that the overall quality of the decision process is only as strong as its weakest dimension.

The following section builds on the RBV and behavioral decision-making theory to discuss the implications of several fundamental components of decision capabilities on their quality. These components are a higher level strategic decision-making system and tacit and explicit decision competences and their interaction in the strategic choice process. External uncertainty and internal ambiguity influence the configuration of these decision capability elements substantially. Hence, decision quality refers to the direct measure of the fit between capability configuration, internal ambiguity, and external uncertainty, while the performance of the organization indirectly reflects the quality of its decision processes.

A HIGHER LEVEL STRATEGIC DECISION-MAKING SYSTEM

According to RBV scholars, bundles of capabilities (as opposed to processes taken in isolation) drive firm success and sustainable competitive advantage. They consequently argue that there is a need for installing a higher level system capable of identifying and deploying existent and emerging firm resources. Dynamic decision capabilities aim at appropriately adapting, integrating, and reconfiguring internal and external organizational skills, resources, and functional competences in a changing environment (Eisenhardt, 2001). Moreover, a higher level strategic decision-making system comprises the firm's overall strategy and value system and its culture of organizational learning and improvement. In the following discussion, we consider them sequentially.

A higher level firm architecture outlines clear strategies for capability development and makes resource-allocation issues transparent to the entire organization (Prahalad & Hamel, 1990; Teece et al., 1997). More specifically, these strategies provide a plan for linking the firm's values, overall strategy, structure, and culture to its managers' knowledge and expertise. To do so, the higher level strategy system specifies needs in the organizational structure; identifies system gaps between the current and the desired system; provides a plan for sourcing competences; and enhances them through institutionalizing training and coaching. Underinvestment in time, energy, and financial resources may lead to imprisoned resources and constrained innovation, thus giving both incumbents and new entrants an opportunity to outperform the company in the long run.

The second key characteristic of strategic decision systems refers to the existence of a culture of organizational learning and improvement, which enables firms to communicate and "memorize" successes and failures in the

minds of key employees (Prahalad & Hamel, 1990). By creating a shared understanding, firms are also more likely to critically reflect upon their own performance and to ensure commitment to action once a decision has been taken (Matheson & Matheson, 1998). Such a culture allows the firm to build an organizational memory capable of storing decision heuristics and, ultimately, to create a corporate vision encouraging decision makers to strive for continuous improvement (Lei, Hitt, & Bettis, 1996). It emerges by developing basic dynamic routines rooted in an organizational structure which allows for and institutionalizes collective intuition and improvisation on the one hand, and promotes change and adaptability on the other hand. Such routines also rely on shared understandings, knowledge, experience, and learning to create decision skills and channel resources into core capabilities (Fiol & Lyles, 1985).

Skills accumulation typically happens through experimentation with new processes both as "learning by doing" and "learning by using" (Lippman & Rumelt, 1982; Dierickx & Cool, 1989; Lei et al., 1996; Teece, Pisano, & Shuen, 1997). The collective experience gathered through these learning processes creates unique historical path dependencies in the organization, which eventually may themselves become sources of competitive advantages (Lei et al., 1996). This "positional factor of the competence" (Coynes, 1987) is asset based and highlights constructive past actions and decisions. A culture of organizational learning is therefore a fundamental element in the strategy of an organization (Prahalad & Hamel, 1990), and effectively integrating it into its core capabilities is crucial to its long-term competitive advantage (Lei et al., 1996). Miller and Shamsie (2001) demonstrate, in a study of product-line experimentation in the movie industry, that tenure plays a key role in organizational learning. Last, Martin de Holan and Phillips (2003) define organizational forgetting as a complementary mechanism to organizational learning that firms both implement voluntarily and endure against their resolve. A key success factor for organizational learning therefore becomes finding the right balance among employees' inexperience, established routines, and organizational forgetting.

EXPLICIT DECISION COMPETENCE

According to Matheson and Matheson (1998), one of the key characteristics of successful companies lies in their setting up an appropriate formal frame representing the organization's rational decision system. This formal decision frame aims to enhance organizational learning by formally building effective, complex problem-defining and problem-solving heuristics (Fiol, 1991; Bower & Gilbert, 2005). A formal decision frame provides the infrastructure for decision heuristics in terms of information processing tools, outcome measures, processes, and decision-support technology. Furthermore, it creates a unique configuration of resources and capabilities, which is constantly monitored and revised when new market conditions emerge. An

explicit decision competence also requires the organization to understand on which hierarchical level the decision should be taken in order to clearly define responsibilities and accountabilities of decisions taken (Bower & Gilbert, 2005). Lastly, an explicit decision competence contributes to a high degree of decision quality if the firm effectively avoids resolving the “wrong” types of problems. It can do so by providing decision tools that match the characteristics of the decision problem at hand. Decision makers’ beliefs and prejudices influence the interpretation of decision outcomes. Therefore, in order to perceive alternatives within its higher level strategy-making system, the organization must provide rational tools, measures, and processes that challenge conventional thinking and result in multiple perspectives (Matheson & Matheson, 1998).

TACIT DECISION COMPETENCE

The flexibility of the explicit decision competence determines, to a large extent, how rational the strategic choice process is allowed to be in the organization. However, research has shown that even if the explicit tools, measures, and processes seem to be perfectly capable of taking external ambiguity and complexity into account, decision effectiveness can still be poor due to decision makers’ collective interactions and individual characteristics (Amason, 1996).

On the collective level, intuition, speed, conflict, politics, power, and procedural justice are all important moderators of the quality of decision capabilities and, consequently, of the effectiveness of decision outcomes (Quinn, 1980; Simon, 1987; Eisenhardt & Bourgeois, 1989; Kim & Mauborgne, 1998). These moderators do not necessarily represent an impediment to high decision quality. Indeed, some of them (e.g., intuition, speed, conflict, and justice) may enhance the quality of decision making (Schweiger & Sandberg, 1989; Amason, 1996; Kim & Mauborgne, 1998), whereas others (e.g., politics and power plays) need to be averted during the strategic choice process (Pfeffer & Salancik, 1974).

On the individual level, Parikh (1994) describes managerial intuition as a multidimensional, multicontextual, and multilevel concept. Due to its intangible form of aggregation, many different connotations originating from philosophy, arts, epistemology, psychology, mysticism, and neuroscience have been attached to it. Management research suggests the existence of two metacategories: intuition as expertise and intuition as sensing (Miller & Ireland, 2005). Kahneman and Frederick (2005) distinguish intuition from rational analysis in terms of its cognitive tacit aggregation, its speed, its degree of controllability, and the content on which it operates.

Intuition usually occurs effortlessly and without conscious attention and allows individuals to learn from experience (Hogarth, 2001). In the scope of this chapter, we conform to Kahneman and Frederick’s (2003) distinction of intuition from rational analysis with respect to aggregation,

speed and content, but argue, in accordance with Klein and Weick’s (2000) epistemological definition of intuition as a “skill,” that intuition may be controlled to a limited extent through training and experience—a commonly used notion in management research (see for instance Simon, 1987; Parikh, 1994; Klein, 2003; Sadler-Smith & Shefy, 2004; Miller & Ireland, 2005).

The key to effectively utilize decision capabilities is therefore to correctly identify and synthesize the decision makers’ skills and perspectives that are most appropriate for the decision (Amason, 1996). This allows the organization to accelerate its learning patterns and to develop “improvisation skills” to rapidly adapt to its changing environment (Eisenhardt, 1989; Eisenhardt & Martin, 2000). In this chapter, we refer to such improvisation skills in organizations as the “tacit decision competence.” Employees’ individual and collective decision skills and their underlying cognitive reasoning processes determine this competence, which in turn reflects their ability to interpret and process explicit information provided by the decision environment and tacit information rooted in the employees’ expertise and experience (Matheson & Matheson, 1998). Adopting a multidimensional perspective on decision processes, Eisenhardt and Zbaracki (1992) argue that decision makers in organizations tend to follow basic rational models. Yet, at the same time, they make use of intuition and improvisation skills in order to cope with a dynamic and rapidly changing environment. Klein (2003) consequently suggests that the adoption of meaningful behavior in strategic decision making requires organizations to strike the right balance between rational analysis and intuition.

However, due to the limited time frame of organizational decisions and managers’ limited ability to consider all risks and uncertainties involved, decision-making skills must be based on experience and learning, since intuition in isolation commonly leads to a number of “decision traps” inducing bias into the process (Schoemaker & Russo, 1993). Hence, there is a need to build and enhance organizational intuition and supplement it with more objective, explicit, rational knowledge. In practice, this may be done by accumulating managerial experience and constantly updating the mental rules that managers use to make sense of the world (Klein, 2003; Miller & Ireland, 2005).

STRATEGIC CHOICE PROCESS

A significant stream of research in strategic decision making focuses on the set of sequential actions taken and the dynamic factors involved from stimulus for action to a specific postdecision commitment (Mintzberg, Raisinghani, & Théorêt, 1976; Nutt, 1984). Most researchers in this stream use in-depth analyses of empirical data to intuitively identify underlying sequential patterns of decision activities (Soélbêrg, 1967; Mintzberg et al., 1976; Hitt & Tyler, 1991). However, they do so at the cost of external validity,

on small samples only and with findings contingent on the reliability of their intuition (Nutt, 1984). Alternatively, Nutt applies a classification approach similar to the one developed by linguistic researchers, who typically start out with a minimal set of conceptual elements used as reference points for the study and then use elaborate subconcepts when analyzing the data. This approach allows for larger samples, but assumes the existence of a basic normative framework applied in all decision processes (Nutt, 1984).

Mintzberg et al. (1976) remark that activities carried out in strategic decision processes do not follow a fixed, undisturbed sequence. Rather, they form a dynamic, open system subject to disruptions, feedback loops, dead ends, and other interferences. This kind of turbulence in strategic choice is caused by the interaction of both tacit and explicit decision competences in the face of external and internal uncertainty. Furthermore, this interaction of both systems can be characterized by the firm's attempts to guide and control the process stages; to communicate input and output information; and to use political routines to reach a solution (Mintzberg et al., 1976). Nutt (1984) finds variations in the search, synthesis, and analysis stages of strategic decision-making processes.

To this day, Simon's (1965) trichotomy of intelligence, design, and choice remains the dominant and most frequently cited decision-process morphology model. The original trichotomy starts out with the recognition and diagnosis of a decision problem. It then proceeds with the design of possible solutions. Last, a choice is made. Nutt's (1984) conceptualization of decision process types also reflects these phases, yet elaborates them in a higher number of decision sequences. To better account for varying levels of stimulus, process, and solutions associated with the strategic decision, Mintzberg et al. (1976) redefine them as a sequence of identification, development, and selection. Mintzberg et al. (1976) also argue that, within each phase, the intensity of efforts induced varies depending on the type of decision problem at hand. Thus, "ready-made" or "off-the-shelf" decision processes are characterized by low-effort information gathering, as alternatives are readily available. In contrast, "custom-made" or "nova" processes require the organization to engage in extensive information search and alternative generation (Mintzberg et al., 1976; Nutt, 1984).

Identification is the starting point of every decision process (Simon, 1965). During this first phase, the problem or opportunity is recognized and diagnosed. The overwhelming amount of often ambiguous or tacit data decision makers have to deal with makes existing problems, opportunities, and crises difficult to understand straightaway and renders identification necessary (Mintzberg et al., 1976). This phase involves a number of different activities (e.g., listening to stakeholders, environmental scanning involving internal and external databases, initial brainstorming for gaps between status quo and future conditions, and performing an analysis of internal and external strengths and weaknesses).

The second phase is one of development. As reliable information is often inaccessible and alternative courses of action are unclear, from an organizational point of view, the design stage contains the most resource-intensive and time-consuming activities of the whole strategic choice process (Mintzberg et al., 1976; Nutt, 1984). Decision makers adopt two types of routines in the development phase: information search and alternative generation.

During the information search phase, decision makers draw upon internal and external sources (using both explicit and tacit decision competences) to gather data on potential alternatives and to narrow down available courses of action. Thus, the search phase rests on the assumption that real choice always requires a number of different possible alternatives, and that high-quality decisions depend on meaningful, reliable information (Matheson & Matheson, 1998). Nevertheless, information quality is inherently problematic when speculating on future uncertainties about markets, technology, competitors, and regulatory changes. Organizations are consequently constrained to rely on partial information, which may or may not give them insights on future uncertainties. This information must be sufficiently meaningful to make inferences and reliable enough to motivate large investments implied by the decision. In this regard, decision makers may obtain meaningful, reliable data by carefully identifying the uncertainties involved and by understanding influential factors in the decision process. They may then use the alternative-generation phase to modify potential courses of action depending on the problem, crisis, or opportunity at hand. Creativity, which allows the firm to frame problems differently, is a core requirement for creating multiple actionable alternatives. It should be possible to make a judgment about the marketability of the product under development (Matheson & Matheson, 1998). Last, high-quality strategic decisions do not produce a plethora of alternatives: they generate only a few that are feasible and core to the company's business.

In the final, selection stage, decision makers determine choice criteria, evaluate the likely consequences of alternatives in the light of these criteria, and reach a decision (Simon, 1965). The selection phase is multidimensional, iterative, and involves a deeper investigation of the alternative courses of action (Mintzberg et al., 1976; Nutt, 1984). In particular, Mintzberg et al., describe three different selection approaches. The first one, "screen routine," involves rejecting infeasible alternatives. The second one, "evaluation routine," is less frequently adopted. It uses judgment, bargaining, or analysis to prioritize alternatives (Mintzberg et al., 1976). The evaluation of alternatives requires the decision maker to consider a large number of often non-quantifiable criteria likely to make the decision process ambiguous and complex. The individual decision maker makes judgments through his or her cognitive processes, and due to their tacit nature, can seldom explain them. In contrast, bargaining involves a group of decision makers, whose selection is influenced as much by conflicting goals,

power, and politics as it is by each individual's cognitive judgments. Lastly, in the analysis mode, a formal, rational decision model is used to generate alternative courses of action. Authorization is the last routine associated with the selection phase. It is required to approve completed solutions across the organizational hierarchy and typically occurs as a binary choice.

SUMMARY AND DIRECTIONS FOR FURTHER RESEARCH

The purpose of this chapter was to provide a conceptual overview of strategic decision capabilities in high-velocity contexts. We started out by discussing the notion of uncertainty and its impact on strategic decision processes. We split uncertainty into two basic dimensions (ambiguity and complexity) that affect both the internal and external environment of decision capabilities, and discussed the moderating effect of uncertainty on the degree of rationality in strategic decision processes. Next, we built on the RBV and strategic decision-making literature to identify and define four fundamental components of decision capabilities in organizations: higher level strategic decision system, explicit decision competence, tacit decision competence, and strategic choice process. We argued that through the interactions of these components, unique path dependencies are created, which are likely to become core capabilities of the organization.

The higher level system incorporates a firm's strategic values and corporate culture of learning and improvement, and serves as a metaframework for its specific strategic decision processes. The second component, the explicit decision system, provides tools, rational measures, technology, and processes to support strategic decisions with formal, fact-based data. In contrast, the tacit decision system of the firm, which is represented by employees' intuitive decision skills and cognitive ability to process information relevant to the decision problem, is quick, based on experience, and uses basic rational models to adapt to the rapidly changing decision environment. Explicit and tacit systems interact in the strategic choice process to result in the selection of alternatives in the face of external and internal uncertainties. We argued that the quality of the strategic decision capability largely depends on the effectiveness of managing these interactions. The identification of a problem or opportunity, the development of alternative courses of action, and their evaluation leading to a strategic decision all characterize strategic choice.

Further research could look into the way managers make sense of strategic decision capabilities. In particular, dual-process models from behavioral decision theory could be used to investigate the interplay between intuition and analysis in the decision-maker's mind. Additional studies could focus, for instance, on the degree of rationality employed when making strategic decisions. There is also a need for substantial empirical evidence on variations in the components of strategic decision capabilities and on the general

nature of strategic decision capabilities across industries, environments, and velocity conditions.

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INNOVATION AS A STRATEGY IN NETWORK MARKETS

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Network markets are everywhere in the 21st century, a prevalent reminder that we are in an information age brought about by the information revolution. Prior generations of firms had to learn how to compete in markets brought about by the industrial revolution. In this century, many more will have to learn how to compete in a network market. This chapter attempts to summarize basic concepts relevant to competition in these markets. What do we mean by a “network market” and a “network effect,” and how can firms compete through “innovation” in these markets? How does the type of innovation matter? How does the firm’s position—incumbent or challenger—matter? What are the relevant issues? Although these concepts and issues are not new, much of our thinking about them is.

The dominant characteristic of network markets is that the value of the product increases as the number of adopters increases. The marginal increase in value that these adopters attain when one more person joins the network is called a *network effect*. In short, the size of the network (installed base) creates a benefit, which is independent of any product features, quality, or even the image of the product—and this changes the nature of competition (Farrell & Saloner, 1985, 1986; Katz & Shapiro, 1985, 1986, 1992).

A fax machine, for example, is useless if it is the only one in existence, regardless of any “exceptional” features. Its value increases as the number of fax machines with which it can communicate increases. Therefore, we say a compatible set of fax machines form a communications network in which network effects are *direct*. However,

indirect network effects can also arise when different components—such as hardware and software—work together in a system, and the value of one increases as the installed base of the other increases. A video game console, for example, becomes more valuable the larger the installed base of games it can play. An audio playback device such as the iPod becomes more valuable as the library of music it can play grows larger (Clemens & Ohashi, 2005; Gallagher & Park, 2002).

Network markets are not new. FM and AM broadcasting systems exhibit network effects, as do electric transmission systems and even the relatively ancient Pony Express. However, network markets are arguably much more prevalent this century, given the central role of new communication and information processing technologies in our lives; many of us have had to choose among mobile phone operators, for example (Birke & Swann, 2005). When one also considers that the firm, as we know it, has only existed for a century or two, it becomes clear that we have a lot to learn about competition in these markets (Chandler, 1977).

This chapter addresses this emerging area of knowledge and focuses on technological innovation as a strategy in these markets, particularly product and systems innovation. Whether innovation in a network market is likely to capture share and profits clearly depends on several factors. Prominent among these are (a) market structure—whether the market remains competitive or is dominated by a monopolist; (b) the position of the innovator—peer, challenger, or monopolist; and (c) the type of innovation—the extent

of compatibility and improvement it provides relative to competitors' products. Radical innovation provides large improvements and incremental innovation, small ones.

As we review what we do and do not know about competing through innovation in network markets, we find challengers may be better off adopting more risk, not less. Both incompatible and radical innovation can offer higher expected returns than compatible and incremental innovation, respectively. Moreover, "traditional" strategies such as competing through product benefits and differentiation remain highly relevant—even though scholars initially advised challengers to concede network markets that had "tipped" to a dominant firm.

Such prescriptions underestimate the powerful role of innovation as a strategy and the competitive process by which new technology periodically replaces the old. Fax machines, for example, are now largely replaced by "scan and send" technologies in computer systems. Network effects clearly raise the bar for challengers, and they may confound some of what we know about competition, but they do not negate the *entire* body of knowledge that management scholars and economists have painstakingly accumulated.

The first section of this chapter proceeds to summarize what we know about competition in network markets. As we shall see, much of the management research in this area has focused on network markets. The second section addresses the roles that firm position and type of innovation play in markets that have tipped to a dominant firm. The third section then analyzes competition in this postemergent phase: how can a challenger compete after a monopolist has won a standards war and captured a "winner-take-all" position? Finally, we distinguish among different types of network markets, by pointing out that the type of innovation a challenger should use to compete is a function of market and technological characteristics. Some characteristics render some types of innovation far more likely to capture share from a monopolist than others.

NETWORK MARKETS

Each scholar has his or her favorite source of knowledge regarding some phenomenon. This case is no different. There appear to be four major research streams that introduced ideas related to network markets, what they are, and how they differ from the traditional markets that scholars had previously focused on. These sources consist of (a) business histories such as the VHS and Beta wars documented by Rosenbloom and Cusumano (1987); (b) Arthur's (1989) analysis of increasing returns; (c) David's (1985) description of how expectations and compatibility issues lead to path dependence; and (d) the formal economic models developed by Farrell and Saloner (1985, 1986) and Katz and Shapiro (1985, 1986), which described network effects and how they affect competition and social welfare. This latter body of work is broadly referred to as *network externalities theory*.

Winner Takes All

To date, most studies of network markets have focused on the dynamics of competition in *emerging* markets. Proponents of network externalities theory assert that incompatible technologies compete intensely in emerging markets, but when consumers expect the installed base of one technology to become larger than any other, they adopt that technology *en masse*, abandoning any other. That point where consumers expect a technology to win is called a *tip-ping point* because the market tips to adopt that technology to the exclusion of any other.

One of the most notable aspects of competition in these markets is that it becomes a do or die proposition. Competition is particularly intense because just one technology remains standing. If one firm has proprietary access to that technology, the end result is one monopoly and monopoly profits. The other competitors are vanquished and retain virtually no market share. Moreover, such a monopolistic position appears quite sustainable, since network effects deter others from competition. As a result, these monopolists have been considered invulnerable.¹

Thus, the term *winner-takes-all* characterizes this type of competition. The winning firm, that which owns the most popular technology, takes "all" the profits. Fringe competitors and new entrants bite the dust. Microsoft's monopoly share of the desktop (notebook) operating system market is a popular example of such a winner-take-all position.

Expectations and Compatibility

Key to this dynamic are the roles of *expectations* and *compatibility*. Expectations are self-fulfilling in network markets; they create a positive feedback loop. When consumers expect a product will attract the most consumers, they will buy that product, which causes the market to tip and that product to have the largest installed base. In competitions between systems that exhibit indirect network effects, consumer expectations about the availability, price, and quality of some components can be determinative when other components must be bought first. If consumers do not expect software components to be available, for example, they will not buy hardware components and, hence, the overall system. Expectations regarding these components determine which technological system wins the market.

As a result, firms have strong incentives to build expectations about their own products and tear down expectations about rival products. Some of the legitimate ways firms build expectations are through sources of competitive advantage such as established reputations, well-known brand names, and visible access to capital. Less legitimate tactics such as preemptive product announcements and predatory pricing have received the attention of antitrust agencies such as the Department of Justice in the United States and its counterpart in the European Union. Apparently, the promise of sustainable monopoly profits promotes hypercompetition that walks a fine line between business

practices that are considered predatory and those that are not (Sheremata, 1998).

Firms *without* the previously mentioned sources of competitive advantage are more likely to pursue an open systems strategy in which technological specifications are made available to encourage compatible product development and larger networks. These firms are more likely to prefer to compete through compatible products. They compete within—rather than between—standards, those technological specifications that determine the extent to which products can work together. In contrast, firms that do have established reputations, large sources of capital, and other advantages are more likely to compete through incompatible products—between standards (Besen & Farrell, 1994).

Compatibility has been broadly defined as the ability of a product to work well with another (Farrell, 1989). More specifically, communications networks are incompatible when a subscriber of one network cannot communicate with those on another network; “hardware/software” networks are incompatible when components of one system do not work with components of another system. EMI produces CDs, for example, that are “copy controlled” so they cannot be played on an iPod through iTunes. These CDs are components of audio systems that are incompatible with the iTunes system.

David (1985) explained the critical roles of expectations and compatibility in his history of the QWERTY design, which still dominates (as you can see from the top row of letters on your keyboard). He argued that this dominance is a historical accident because this sequence was chosen to prevent mechanical keys from jamming in a typewriter, which is no longer a problem. This design became *locked in*, meaning users became highly resistant to alternatives because it was the first to be widely adopted. Subsequent designs were incompatible and created switching costs for (a) typists who had learned the QWERTY design and (b) institutions that had trained them to type at record speeds. If these users and institutions switched to new designs, their prior learning and skill base would become worthless.

The QWERTY story and Rosenbloom and Cusumano’s (1987) history of the home video wars (Beta vs. VHS) were among the first to capture the essence of compatibility issues in hardware/software network markets, where systems compete for market share. In the QWERTY case, the keyboard is the hardware; typist and training skills can be considered software. In the home video case, the recorder/playback device (the VCR) was the hardware; the videotape was the software. The primary issue in these markets was whether software components designed to work in one system would work in another.

Typists trained to speed-type on QWERTY keyboards would find their skills devalued (and perhaps useless) if another design replaced QWERTY—even if it were technologically superior and allowed a new generation to type twice as fast. When VHS won its standards war—when a majority of consumers expected VHS would become the most popular format, causing the market to tip to the

VHS standard—consumers abandoned their Beta tapes and VCRs in droves, so they could access the variety of VHS tapes that quickly flooded the market. Some became dual households for a while, but eventually folded.

Hence, we come across a phenomenon that plays a big part in adoption decisions: the fear of being stranded. If consumers adopt the losing technology, their prior investments in learning, skills, hardware, and software libraries lose substantial value. They will not be able to access future improvements associated with the winning technology.

Coordination in Systems Competition

A system consists of two or more components and an interface that allows them to work together. Hence, competition among systems brings up the issue of *coordination* (Katz & Shapiro, 1994). Consumers coordinate their choice of hardware based on their expectations of software availability (or other components). At the same time, firms must ensure sufficient “software” components are available for the “hardware” they produce. They can accomplish this by (a) owning all the relevant components, (b) establishing long-term contracts with other component owners, or (c) participating in formal standard setting bodies (such as the American National Standards Institute and the International Standards Organization).

Consider the generation of camcorder consumers who have been stranded with 8-mm videotapes of priceless family moments and (virtually) no devices with which to play them back. Markets have moved on to produce and adopt other camcorder formats, which (arguably) provide better performance (in some dimension) or are more cost-effective for the majority. Although many 8-mm consumers also bought new and incompatible generations of camcorders, we suspect they did not foresee that newer formats would eventually eliminate support for prior standards, leaving them without devices to play back birthday parties and weddings. But so it has been, since the dark ages of the 33-inch LP (long playing vinyl record) and even before that. When consumers adopt new and differing technologies so quickly that stranding is excessive and (overall) value is destroyed, we say these markets exhibit *excess momentum* (Farrell & Saloner, 1986).

In an attempt to solve this problem, consumers may delay their choice of technology until they can be relatively sure they will not be stranded. In some cases—where technological change moves quickly and a variety of products are available based on competing standards—consumers can delay purchases indefinitely. As a result, these markets display *excess inertia*. They either fail completely because there is no foreseeable market large enough to sustain these products, or they fail because no single technology (firm) can attain a share that is large enough to generate profits. The competition surrounding high-definition TV has demonstrated many aspects of excess inertia, for example. Economists claim these consumers would be better off if they could coordinate their decisions, because that would

allow a large enough market to exist. More new technologies would be brought to market and fewer consumers would be stranded.

Now consider Apple's iPod as a hardware component in a competition among portable audio playback systems. This hardware/software system has become a dominant standard for consumer playback of audio—on the go—and seeks to include more functionality by adding interfaces to a broader set of components. One of those components is Microsoft Outlook, which maintains contact data such as addresses and phone numbers. Apple provides instructions on how to import contacts from Outlook, and the result (when it works) is truly more functionality and ease of use. However, slight shifts in interfaces between components can create incompatibilities and what is, theoretically, a simple import can become a very complicated exercise. In such a case, compatibility might even be blocked by the owner of one component in order to prevent the other from gaining share.² It will be interesting to observe the extent of compatibility and coordination Apple Inc. can achieve with third parties, as it attempts to provide more and more functionality in products such as the iPhone and "Apple TV."

COMPETITION IN NETWORK MARKETS

Economists have produced the lion's share of what we know about network markets. The pioneering work of Katz and Shapiro (1985, 1986) and Farrell and Saloner (1985, 1986) has been particularly productive. Overall, however, economic research has focused on market failures. Social (producer *and* consumer) welfare is reduced when networks are underutilized, meaning users do not join a network that would benefit them or they cause excessive stranding by joining networks too quickly. Economists see this as a coordination problem that can sometimes be avoided by integrating components within one firm or having large buyers sponsor networks. There are also pricing, contract, advertising, and reputation mechanisms that firms can use to integrate component owners and convince consumers that a network will grow.

Economists are also concerned about the longevity of monopolistic power derived from network effects, since it appears immune to competitive attacks (Microsoft's hold on desktop operating systems is a good example). They are usually concerned about the threat (to social welfare) of monopolistic prices and hefty margins. However, economists disagree about the ultimate effects of monopolies. Schumpeter (1950) argued that monopoly profits were important sources of funds for large-scale innovations, while management scholars argue that monopoly profits increase wealth, employment, and (sometimes) technological innovation.

What management scholars share with economists is an interest in (a) how challengers can compete against dominant incumbents and (b) innovation. Many economists have concluded that the sheer longevity of a monopoly protected

by network effects can reduce the speed of innovation, while an important segment of the management community focuses on how firms can successfully compete through innovation. Despite this commonality, few in the management community have studied competition in network markets.

The remainder of this section summarizes what we know about strategic management in emerging network markets, after which we will return to the following issues: (a) How can a challenger compete against a dominant incumbent in a network market, and (b) how can firms compete through innovation in these markets? As we shall see, these issues require a more in-depth analysis of the type of innovation through which a challenger can compete as well as the market itself. Apparently, more comprehensive analyses of innovation types and market characteristics bring us, full circle, back to traditional competitive strategies such as product differentiation. The foundation of knowledge upon which Porter (1980, 2001) built his frameworks remains applicable to network markets. However, traditional models of strategy remain relevant only after one broadens the underlying analyses to include "the effects" of network effects and additional characteristics of supply and demand.

Tactics in Emerging Markets

Strategic management scholars are not interested in *determinative* theories of monopoly power. Because they focus on how firms can compete, scenarios where profits are locked up for generations hold less interest for them than those where competition can lead to market share and profits. As a result, most management studies to date have focused on how firms should compete in emerging network markets—those that have not yet tipped—before the winner takes all.

Both economists and management scholars have identified tactics that firms can use to attract consumers to networks in emerging markets. Among others, these include (a) making credible and binding pricing commitments; (b) opening the market to software suppliers to ensure users of an alternate "second source" supply; (c) renting rather than selling hardware so firms incur risk rather than consumers; (d) integrating, or forming an alliance, to signal commitment to sell both hardware and software; (e) penetration pricing, providing steep initial discounts; (f) making sunk investments to show commitment to software supply while signaling expectations of heavy demand; and (g) holding important firm assets such as reputation hostage (Katz & Shapiro, 1994). All of these tactics can affect expectations and, therefore, influence the market to tip toward a firm's product.

Strategies in Emerging Markets

Besen and Farrell (1994) are among the few who have tried to take a comprehensive look at competition in these markets from a strategic management perspective. Given a competition between two firms in an emerging network

market, they focus on a basic strategic choice: Should a firm prefer to compete within or between standards? That is, should a firm make its products compatible with those of its rival, competing within a standard, or should it make them incompatible, competing between standards?

The key question for firms is whether competing for, or within, the market is more profitable. When firms are symmetrically positioned with respect to resources, reputation, and other sources of advantage, Besen and Farrell (1994) assert that a firm's return will depend on two variables: (a) the degree of skew in expected returns and (b) the sharpness of available tactics. The more skewed returns are, the harder firms will fight, and the sharper the available tactics, the more fighting will dissipate profits.

From these two variables, Besen and Farrell (1994) formulate three scenarios: (a) "Tweedledum and Tweedledee," in which both firms prefer to compete to set the standard and so have a standards battle; (b) "Battle of the Sexes," in which each prefers its own technology as the standard, but also prefers compatibility with its rival's standard to going it alone—compatibility is important and both prefer to compete within a standard; and (c) "Pesky Little Brother," in which one firm prefers to maintain its technology as a proprietary standard, but the other wishes to join its rival's network. They provide more detail on the competitive dynamics that ensue and an entertaining account of each scenario.

Open Standards?

Finally, scholars such as Garud and Kumaraswamy (1993) have also looked at the importance of compatibility in competition, by focusing on the role of open standards. Sun Microsystems and IBM's Personal Computer both illustrate the dynamics of "open" competition. Both clearly obtained advantage through open systems. Other firms could make their products compatible because Sun and IBM made their interface specifications widely available. However, IBM's advantage was clearly not sustainable; imitation became a widespread problem and its Personal Computer rapidly lost market share after a few very successful years. In contrast, Sun was able to retain its advantage for a longer period by retaining a greater degree of intellectual property protection and rapidly upgrading its products. Again, however, studies of open systems have focused on competition in emerging markets.

Critics and Future Developments

Not all are converts to the basic tenets of network externalities theory. Liebowitz and Margolis (1994, 1999) have been vocal critics, pointing out what they consider fatal flaws in this body of theory. They and others suggest that more is here than meets the eye. Perhaps failing technologies only appear inferior, for example. They also point out that additions to networks cease to produce network effects at some threshold in some markets. Moreover, het-

erogeneous preferences among consumers appear to negate some of the tenets of network externalities theory. However, what is a gap or flaw to one scholar is an opportunity to another—an opportunity to extend theory. The following section addresses some of these "flaws" in the context of postemergent network markets. We return to the issue of how challengers can compete through innovation in markets that have already tipped.

COMPETING THROUGH INNOVATION

In the last decade of the last century, the prevailing thought was that all was won or lost after a network market tipped to a dominant firm. Challengers—those fringe competitors with tiny shares and new entrants—could not compete. The idea that innovation could overturn a monolith such as Microsoft, in the Schumpeterian fashion, was not really considered. This is where 21st-century scholars have their work cut out for them: How can firms compete through innovation in network markets after a winning firm has become entrenched and network effects amplify barriers to entry?

Challengers Versus Incumbents

Initial formulations of network markets have revolved around the idea that powerful incumbents with entrenched monopoly power result from tipping. This winner-takes-all mentality has become so firmly established that the dominant prescription for firms that lose standards battles is to exit the market (Arthur, 1989, 1996). This presumption that firms cannot successfully challenge the winner—combined with the gaps in current theory that critics point out—provides tremendous opportunities to advance our knowledge about these markets.

This problem falls squarely in the domain of strategic management, whose mission is to help firms compete no matter how dire the straights. Moreover, the idea that incumbents cannot be overthrown—through innovation—is one that fundamental research in management and economics contradicts. Tushman and Anderson (1986) clearly demonstrated the discontinuous and cyclic pattern of competition, in which radical innovation periodically overthrows prior technological regimes. Such analyses fall squarely in line with Schumpeter's (1950) theories about "the process of creative destruction" (p. 81), by which he meant extensive technological improvements periodically lead to new social and economic orders.

More recently, economic models indicate that the question of whether a challenger or incumbent monopolist has sufficient incentive to compete through innovation depends on (a) the degree to which the innovation destroys the monopolist's market power and (b) the extent of technological uncertainty. Economists find that innovation is a key strategy that incumbents can use to hold onto monopoly power, but challengers can also use this strategy to wrest

monopoly power from them. Moreover, the type of innovation matters—radical innovation can favor challengers, as we shall see. These models are consistent with management research that finds different types of innovation lead to different competitive outcomes, which also depend on whether the firm is a challenger or incumbent (Henderson & Clark, 1990).

Although these studies have focused on nonnetwork markets, we need only look at what differentiates a network market and factor that into their analyses. A network market is not a *completely* different animal from a non-network market. It merely consists of additional characteristics—stripes, if you will. The distinguishing feature of a network market is the presence of network effects, which means increases in network size confer a benefit to those in the network. However, network benefits are not the only benefits that adopters incur. As Katz and Shapiro (1992) demonstrated, product and network benefits coexist side by side and appear largely independent. If product benefits are large enough, and consumers expect the new network can attain some minimally sufficient size, product benefits can clearly substitute for network benefits. That is, large product benefits can compensate consumers for the network benefits forgone to join the smaller (challenger) network instead of the dominant one.

Some of the more visible network markets are those in which the size of the network benefit has clearly overwhelmed the size of product benefits that challengers have tried to compete with (the market for desktop operating systems, for example, which Microsoft has dominated). However, history indicates that—even in these markets—innovation that provides an overwhelming advantage over existing technology can topple incumbent dominance and establish a new network. Video communications, for example, can topple the dominance of telecommunications networks, and so forth. Product benefits, and strategies such as product differentiation, are still relevant in network markets (Greenstein & Mazzeo, 2006). They merely have a higher threshold to overcome; large rather than incremental improvements must often be provided.

Types of Innovation

Challengers in markets that have tipped must make two strategic choices regarding innovation type. They must decide whether to compete through compatible or incompatible innovation. However, they must also choose the extent of improvement they will provide, whether they will compete through radical or incremental innovation (David & Greenstein, 1990; Sheremata, 2004).

Recall that radical innovation provides large improvements in function or performance, relative to cost, whereas incremental innovation provides minor improvements. Innovation is radical to the extent that it embodies new knowledge. An electric car is a radical innovation, for example, whereas new dashboard features are usually incremental. Although most management research has been vague about

the extent to which innovation is radical or incremental, a few—such as Henderson (1993) and Christensen (1997)—have explicitly studied how radical innovation affects competitive outcomes. Gilbert and Newbery (1982) initially found that incumbents with monopoly power should prefer to invest in innovation when entry barriers are low, to preempt entry. Consistently, Christensen has shown that powerful incumbents often engage in “disruptive” innovation. However, Reinganum (1983) found that incumbent monopolists have *less* incentive to innovate than challengers when technological uncertainty is high—as it is in radical innovation.

In spite of this progress, the mind-set of addressing incremental, rather than radical, innovation has been prominent in the 20th century. Rosenberg (1982), among other business historians, economists, and management scholars, argued that the majority of technological progress has been achieved through small incremental innovations that build upon each other. Usher’s (1954) history provides examples from turbine engines to precision timepieces that have been developed this way. While it is true that the vast majority of innovations are incremental, such a focus ignores the impact of those rare, but truly new, innovations that change our social landscape. As Schumpeter (1950) argued, radical innovation is what truly propels profits and technological progress. Although such innovations are rare, their impact on competition and social welfare is so great that they too deserve study. Innovation-related theories that claim to be “one size fits all” typically are not (Abernathy & Utterback, 1978).

CHALLENGING AN INCUMBENT MONOPOLIST

Our knowledge of how to compete in emerging network markets has clearly progressed, as described earlier. However, management scholars have paid far less attention to competition in network markets after they have tipped to a dominant firm.³ These markets have a very high barrier to entry, since network effects amplify traditional barriers such as economies of scale and capital requirements.

Innovation is a way of competing in these markets that appears to have been underestimated. New entrants and fringe competitors can topple the incumbent to capture significant market share, but the way they do this—the extent to which innovation is not only compatible, but also radical—matters. Moreover, we need a more comprehensive review of market characteristics—consumer value and production functions—to understand how challengers can compete. The properties of network markets are simply more complex than initially envisioned. More in-depth analyses can bridge the gap between critiques of network externalities theory and its potential to help firms compete.

Consistent with these critiques—which point to omitted variables—firms need to analyze additional characteristics

of markets and technologies when formulating a strategy to “take back” a network market. In combination, these characteristics render some types of innovation far more likely to succeed than others. Such analysis can help challengers determine whether their product should be compatible with the dominant firm’s product and the extent of improvement they should provide—how much additional product benefit. In short, should they compete through innovation that is incompatible or compatible, and radical or incremental?⁴ Which combination is most likely to capture significant market share and returns?⁵

Competing Through Incompatible Innovation?

As described earlier, scholars have addressed the issue of whether firms should compete through compatible products in emerging network markets. This issue is also central in the context of a tipped market, but the competitive dynamics differ.

Intellectual Property Protection

First, a challenger must determine whether competing through a compatible product is even feasible. Assumptions regarding the extent to which firms *can* produce compatible products are critical, but often not addressed. Imitation is deterred by informal means such as technological complexity and lead times, as well as formal mechanisms such as copyrights and patents. Although the latter are not as costly to work around as many presume, informal mechanisms can be quite costly (Lemley & Shapiro, 2005; Levin, Klevorick, Nelson, & Winter, 1987; Varian, 2005).

When intellectual property protection precludes perfect compatibility, the challenger then needs to decide the extent of incompatibility it will provide. It must weigh the benefits of greater compatibility against the costs of working around existing protection. However, it must also evaluate the benefits of incompatibility. Market characteristics—such as heterogeneous preferences and low thresholds for network effects—can enable the coexistence of multiple networks, which creates opportunities for incompatible innovations. Incompatible innovation may then have greater expected returns than compatible innovation.

Hence, firms need to analyze the structure of demand to determine whether preferences differ in the market. They also need to evaluate whether the network effect—the benefit conferred by adding one more user to the network—waned or ceases to exist at some threshold. If preferences differ and network effects become insignificant at some relatively small network size, then multiple networks can coexist and incompatibility may confer more benefits than initially apparent.

Heterogeneous Preferences

Even if perfect compatibility is an option, challengers may profit more from a strategy of incompatible innova-

tion if consumers value heterogeneous aspects of products—simply because perfect compatibility precludes heterogeneity. Joe Farrell (1989) gave a wonderful example of this when he described how horses tethered together cannot coordinate themselves to satisfy differing preferences. If one horse craves a meal in the shade and the other a patch of clover some distance away, one must sacrifice its preference for the other. Compatibility precludes the satisfaction of mutually exclusive preferences.

Because differing preferences can be latent, firms must carefully analyze demand to determine whether dimensions of value upon which buyers differ can be found. Economists have long held that competition should be more profitable when firms differentiate products, that is when they produce products that satisfy strongly held tastes for a variety of product characteristics (Scherer, 1992). Differentiation has also been a central strategy in the field of management (Porter, 1980). However, practitioners and scholars have assumed that network effects render differentiation strategies obsolete—that product benefits do not matter when network benefits are in play. They do matter.

Differentiation is a strategy that can work in network markets, if it reflects market demand. Incompatibility can be more profitable—given varied preferences in the market—than a head-on competition to meet the same preferences, which can dissipate profits. That said, the benefit provided by meeting demand for variety must exceed the network benefit provided by the dominant firm. Variety must be valued more than the forgone network benefit. We see this periodically, for example, when consumers value features of Apple’s computer systems more than the network benefits conferred by the dominant Wintel (Windows and Intel) standard.

Network Thresholds

Some mathematical function reflects the relationship between network size and network effects, how much benefit all users (members) obtain as each new user is added to a network. Is that function linear—meaning the addition of each new “user” increases the value of belonging to the network just as much as each prior addition—or, at some point, do increases in the size of the network (installed base) have weaker network effects? At some point, do additions to the network cease to benefit users? Do network effects wane such that they become inframarginal and cease to matter? If so, what may appear to be one large network market may actually be able to accommodate incompatible products and the coexistence of several smaller networks.

Consider the benefit of adding one more person to a party in a small house. In general, adding the fifth or sixth person should liven things up, make for interesting conversation, and so forth. Each additional person should provide benefits to the people already invited, until the food runs out, the house is too small, and you cannot really find the person you want to talk to. At some point, depending on individual preferences, adding one more person subtracts

value. A positive network effect no longer exists at that point.

Increases to the size of the network simply fail to add value at some particular threshold, which means multiple networks (parties) can coexist. We see this all the time—in markets for incompatible video game consoles, for example. Yet, Microsoft's sustainable dominance of the market for desktop operating systems has led some to gloss over this aspect of network markets. It is difficult for multiple operating systems to coexist because the threshold at which network effects wane is quite high. Moreover, preferences for desktop operating system functions do not vary substantially; they have been relatively homogeneous. Even here, however, niches can be found. As West and Dedrick (2006) describe, Linux is able to coexist with Windows in segments where preferences differ and small networks provide value.

Competing Through Radical Innovation?

If a challenger does determine that competing through an incompatible product is unavoidable or beneficial, it must then determine how much improvement (product benefit) it needs to provide consumers to compensate them for network benefits forgone. The greater the network size the dominant firm provides, the greater the product benefit the challenger must provide. Moreover, characteristics such as switching costs, R&D cost structures, and technological uncertainty impose additional risks and costs on investors and consumers. Therefore, the challenger must decide how radical its product needs to be to compensate for all of these costs. Ultimately, the degree of product benefit a challenger provides determines whether it can surmount the “net” entry barrier—the traditional barriers to entry amplified by network effects. In sum, these characteristics affect expected returns from radical and incremental innovation, rendering one of these strategies more preferable than the other.

Switching Costs

Consumers will simply not switch to a new and incompatible technology unless it offers significant improvements in performance (Shapiro & Varian, 1999). Conversely, they will switch if the challenger provides sufficient benefits. Switching costs are those costs consumers perceive they will incur if they replace one product with another. They include psychological costs—such as a fear of incompatibility—the cost of learning new skills to replace those rendered obsolete, as well as the cost of replacing physical components. They occur in both network and nonnetwork markets.

Switching costs and the degree of incompatibility need not be related. Many people prefer brand-name pharmaceuticals even though the compositions of generic drugs are virtually identical. Moreover, switching costs depend on the specific market for which a firm is competing. Professional

programmers, for example, incur fewer switching (learning) costs than nonprofessionals when upgrading software products.

Whatever the source, if the market a challenger targets has switching costs, it must provide product benefits that compensate consumers for those costs as well as forgone network benefits. When switching costs are high, radical innovation should be the preferred strategy, since it is the only type of innovation capable of providing a large enough product benefit. Incremental innovation simply provides too little improvement to convince buyers to incur switching costs *and* give up the greater network benefit of the larger network. Radical innovation should be more profitable than incremental innovation; expected returns should be higher.

R&D Cost Structures

Certain cost structures have similar effects, and should lead challengers to prefer radical over incremental innovation. When R&D costs are fixed and production economies of scale exist, investors incur greater risk and uncertainty as to whether they can recover their investments. Such a cost structure amplifies the barrier to entry that already exists in a tipped network market.

Challengers with high R&D fixed costs require high revenues to recoup their investment. However, incremental innovation cannot command the prices (or market share) necessary to recoup large up-front investments. Nor can incremental improvements convince consumers to forgo network benefits from a larger network. Only large improvements can compensate consumers for network benefits forgone *and* investors for a high degree of risk. Therefore, only radical innovation is consistent with such a cost structure; only large improvements have any chance of rendering a positive return.

Radical innovation already carries a high degree of risk, and this type of cost structure adds to that. Such innovations have a low probability of success. However, in this context incremental innovations have no chance of success. Moreover, firms often fund dozens of projects, knowing that only one needs to succeed. These firms treat each project as an option, which they can cut short—not fully fund—when other projects indicate more promise. Alternatively, entrepreneurs can bet the farm on one “shot,” knowing radical innovation offers them a greater chance of success than incremental innovation.

Technological Uncertainty

Finally, the materials from which a product is developed create uncertainty regarding when it can be delivered to market. This irreducible component of technological uncertainty stems from the nature of the technology. Many of today's products consist of information rather than physical components, which can clearly increase irreducible technological uncertainty.⁶ This, in turn, increases investors' risk. Again, incremental innovation cannot provide sufficient

value to compensate investors for high levels of risk and consumers for network effects forgone. Again, radical innovation is more likely to be profitable than incremental innovation; expected returns should be higher.

Most of the variables just described are common in industrial organization (IO) economics, a field that examines characteristics of demand and supply to predict how different strategies (firm conduct) affect market structure (whether the market remains competitive or not), given firm positions (performance). Michael Porter (1981) successfully took the IO model of performance → conduct → structure and “flipped it around” to look at these variables from a firm’s perspective: structure → conduct → performance. How might a firm take the same understanding of the same variables to attain competitive advantage and higher than average profits? This chapter suggests that a 21st-century analysis of network markets has much to obtain from taking a similar approach, from breaking down the elements of demand and supply into key variables that can be used to model “the effects” of network effects. It is time to develop further sophistication in our models of how firms can compete in these markets and how they can compete through innovation.

CONCLUSION

The field of strategic management is in its infancy, compared to others. It has only been a couple of decades since the field coalesced around concepts promoted by Porter (1980), Schendel and Hofer (1979), and Mintzberg (1977), among others. Porter’s work is particularly relevant to our topic because he built upon economic theory to produce a framework for strategy formulation that has proven remarkably durable. Some have suggested that network markets challenge that framework. Porter (2001) himself, however, demonstrated that his models apply to Internet- and information-related markets. His frameworks clearly provide valuable insights to any industry.

That said, traditional strategic frameworks simply do not address the unique facets of competition in network markets. They do not address the central idiosyncrasies of such competition, and so fail to capture the essence of competing in these markets. Like the “dark side” of the *Star Wars* series, the “demand side” of competition—the demand-side economies of scale that characterize network markets—are unfamiliar to many and present unique challenges. Let us return to what we do and do not know about these markets.

We know some of the basic dynamics of competition in emerging markets, but far less about how to compete in markets that have already tipped. We know something about competing through compatible standards—and open systems—but far less about competing through incompatible and radical innovation, particularly in monopolized markets. Moreover, we have yet to move beyond simplistic archetypes—emerging or monopolized—to address the

unique characteristics of a variety of network markets. Finally, we need to know more about how characteristics of demand and supply affect competition in these markets.

The good news is that these challenges do not exceed the capabilities of existing research methods and paradigms, particularly those introduced by the field of IO economics and leveraged by Porter (2001). Moreover, the study of innovation has tremendous potential to contribute further insight, since research that addresses the type and context of innovation is also in its infancy. Therein lies an exciting challenge for the 21st century: How can firms compete through innovation in network markets? Meeting this challenge has widespread implications for firms, their investors, and social welfare as a whole. This author is one who truly believes innovation raises all boats.

NOTES

1. In this chapter, the term *consumer* refers to all classes of buyers and adopters including firms and other organizations.
2. A search of the web provides illustrations of both scenarios: (a) stranded consumers of 8-mm camcorders searching for play-back devices and (b) iPod users attempting to import contacts from Microsoft Outlook and encountering technical difficulties.
3. In contrast, economists have paid quite a bit of attention to the effects of monopolized network markets on social welfare and variables such as the speed of innovation (Sheremata, 1997).
4. Note that these two dimensions are largely independent. Very large improvements to existing technologies (radical innovations) can be backward-compatible, while incremental innovations may be incompatible.
5. See Sheremata (2004) for a more complete description of the following model; also see Lee, Lee, and Lee (2006) for a consistent reassessment of the winner-take-all hypothesis.
6. Hence the expression, “Developing software is like mining for flammable gas.”

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PLANNING EFFECTIVENESS FOR INTERNET-BASED INTERORGANIZATIONAL SYSTEMS

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Internet-based interorganizational systems (IIOS) are Internet-based information systems (ISs) shared by two or more organizations such as extranets, virtual corporations, Internet-based electronic data interchanges (EDIs), and business-to-business electronic commerce (B2B e-commerce; Grossman, 2004). In today's business environment, most organizations face developing an e-business strategy, and the IIOS planning issues are those that appear to have the greatest weight (Finnegan, Galliers, & Powell, 2003; Rodgers, Yen, & Chou, 2002; Salmela & Spil, 2002).

IIOS planning was consistently identified as one of the most critical issues facing IS executives and academic researchers. According to surveys of information systems management issues in the recent decade, improving information systems strategic planning remains among the top ten issues facing IS executives and corporate general managers. The strategic value of Internet-based ISs and the impact of technology innovation on the competitive advantages of businesses have increased the need for effective IIOS planning. Furthermore, as electronic business (e-business) strategies have received growing attention from entrepreneurs, executives, investors, and industry, the IS strategic planning is now considered critical in developing a successful electronic strategy (e-strategy). IIOS planning differs from planning for internal ISs and deals with different organizational structure, diverse business strate-

gies, differing information system/information technology (IS/IT) infrastructures, and cooperative issues (Finnegan, Galliers, & Powell, 1999). The importance of planning for IIOS is widely recognized. It provides a business direction for Internet-based IS applications, coordinates the efforts of trading partners, and solves technical and nontechnical issues. IIOS planning describes the procedure of identifying a portfolio of IIOS applications that integrate organizational and interorganizational processes and provide organizations with capabilities to enhance linkages between trading partners along the supply chain.

IIOS involve substantial internal operations and efforts for IS development and have significant impact on the organization. Numerous researchers indicated that technological factors (such as IT infrastructure and IT expertise) and organizational factors (such as management involvement and commitment) expect to influence the planning guidelines for EDI and B2B e-commerce (Galliers, Swatman, & Swatman, 1995; Marshall & Mckay, 2002; Finnegan et al., 2003). Moreover, most research in the IS field focused on examining the planning of IIOS to support interorganizational activity, and several frameworks were proposed to identify the systems planning in e-commerce environments (Finnegan et al., 1999; Pant & Ravichandran, 2001; Marshall & Mckay, 2002). IIOS involve that all participating members coordinate their efforts and cooperate with

each other. These participants may have complex business relationships between the firms and trading partners, resulting in a number of social and political factors that influence IIOS planning (Hong, 2002; Finnegan et al., 2003). Since the planning of IIOS, unlike the conventionally adopted ISs, requires the cooperation of the firm's trading partners, various aspects of uncertain business environments and interorganizational relationships have a significant influence on the planning process.

This study discusses why IIOS planning is an important exercise, a conclusion based on evidence from an ongoing program of empirical research on IIOS planning and management (Lee, Lin, & Pai, 2005; Lin, 2006). It also explores the influence of technological factors (IIOS maturity and technology competence), organizational factors (top management support and CEO/CIO relationship), and environmental factors (environmental uncertainty, competitive pressure, and trading partner readiness) on IIOS planning effectiveness (planning alignment, improvement in planning capability, and fulfillment of planning objectives). It proposes an integrative conceptual framework that included these key factors that were expected to influence IIOS planning effectiveness.

INTERNET-BASED INTERORGANIZATIONAL SYSTEMS

Internet-based interorganizational systems (IIOS) offer various functionalities that allow firms to achieve these diverse objectives and performance outcomes within the context of different types of trading partner relationships. Zhu, Kraemer, Gurbaxani, and Xu (2006) define IIOS as "the kind of interorganizational system that uses open standards (e.g., TCP/IP as the communication protocol and XML as data standards), and is built upon the open Internet for information exchange and business-to-business transactions such as sales, procurement, and customer services." They argued that IIOS generally have a broader trading partner base. For example, developing IIOS require joint efforts across firm boundaries, and the benefits of adopting IIOS are thus contingent on the status of network adoption by other firms in the trading community. Moreover, the existing IS/IT management literature suggests that IIOS can be used to enhance the organizational benefits of IS. For example, Dewett and Jones (2001) have identified five benefits of IIOS that enabled organizational performance: (a) improved ability to link and enable employees, (b) improved ability to codify the organization's knowledge base, (c) improved boundary-spanning capabilities, (d) improved information processing that leads to increased efficiency, and (e) improved collaboration and coordination that promote innovation.

On the other hand, firms are increasingly deploying IIOS to facilitate collaboration with their suppliers and trading partners. Researchers and practitioners (Cash & Konsynski,

1985; Davenport, Hammer, & Metsisto, 1989; Ives & Learmonth, 1984; Johnston & Vitale, 1988; R. Johnston & Lawrence, 1988; Porter & Millar, 1985) argued that the IS/IT revolution was transforming the nature of products, processes, companies, industries, and even competition itself. One of the most intriguing of these transformations is the electronic linkage, facilitated by IIOS (Bakos, 1998). IIOS can enable firms to establish one-to-many linkages and enhance sourcing leverage through electronic connections (Zhu, Kraemer, & Xu, 2003; Zhu, 2004). IIOS affect competition in the following six vital ways (Siau, 2003):

1. It changes the structure of the industry and alters the rules of competition.
2. It enables firms to conduct electronic transactions with any business partners along the value chain.
3. It creates opportunities for companies to establish interactive relationships with business partners (such as suppliers, logistics providers, wholesalers, distributors, service providers, and end customers).
4. It improves customer service and strengthens back-office integration.
5. It creates competitive advantages by giving companies new ways to cooperate and compete with their competitors.
6. It spawns whole new businesses, often from within a company's existing business processes.

INTERNET-BASED INTERORGANIZATIONAL SYSTEMS PLANNING

Internet-based interorganizational systems (IIOS) planning has been described as a managerial and interactive learning process for integrating IS considerations into the corporate planning process, aligning the application of ISs to business goals, developing detailed IS plans, and determining information requirements to achieve business objectives (Cunningham, 2001; Earl, 1989; Galliers, 1991; Teo & King, 1997). The IIOS planning process involves a long-range planning horizon for funds, human services, technical expertise, and hardware and software capabilities needed to take advantage of any opportunities that may arise (Baker, 1995). Organizations, however, may fail to realize the anticipated benefits of their IS/IT investments if they do not engage in appropriate information system planning (Clemons & Weber, 1990; Lederer & Sethi, 1996; Salmela, Lederer, & Repoen, 2000). According to Lee and Pai (2003) and Marshall and McKay (2002), an inappropriate IIOS planning frequently leads to incomplete system projects, resulting in incompatible, redundant, and inflexible information systems. IIOS planning is a long-term process that organizations use to construct their IS infrastructure.

Besides effectively managing Internet-based IS investment, IIOS planning can also optimize resource allocation. In the context of Internet-based ISs, incentives for businesses to engage in IIOS planning are summarized as follows (Lee & Pai, 2003):

1. *Increasing strategic role of IIOS.* IIOS applications have been widely developed and used in enterprises such as e-business, e-commerce, knowledge management, virtual organizations, business process reengineering, customer relationship management, Internet marketing, and supply chain management. Such applications allow organizations to improve their performance and enhance their competitiveness.
2. *Accelerated evolution in information technology.* Organizations must reevaluate available IIOS to maintain their competitive advantage in light of accelerated change in IT including Web-based technology, multimedia technology, client-server architecture, gigabit networking, object-oriented databases, groupware, and wireless communication.
3. *Resource constraints.* Organizations must allocate information resources efficiently given resource constraints including cost, human resources, material resources, software, and hardware.
4. *Integration of existing and new Internet-based IS applications.* The increasing uses of IIOS and growing information requirements necessitate the eradication of incompatible systems. Consequently, businesses must develop new Internet-based IS applications and integrate existing and new systems.

Both practitioners and researchers have considered IIOS planning very important because IIOS contribution to organizational performance depends on its successful execution (Bauer & Colgan, 2001; Kao & Decou, 2003). The advent of new technologies such as Internet-based systems for interorganizational activity possibly makes the challenge of aligning IS with business more significant and difficult than ever before (Salmela & Spil, 2002). Additionally, involvement in IIOS planning has many benefits; for example, IIOS planning can help an organization use IIOS to implement existing business objectives (Chang, Jackson, & Grover, 2003), assess the influence of corporate IIOS investments on existing business activity, and define new business strategies, technological policies, and approaches (Jarvenpaa & Tiller, 1999). Some problems exist in developing IIOS planning, however, including inadequate knowledge of IIOS planning that leads to inadequate decision making, difficulty in convincing top management to approve the process, difficulty in securing top management commitment for implementing plans, failure to assess the current IIOS application portfolio, and failure to adjust IIOS plans to reflect environmental changes (Marshall & Mckay, 2002; Teo & Ang, 2001).

PLANNING EFFECTIVELY FOR INTERNET-BASED INTERORGANIZATIONAL SYSTEMS

Planning for IIOS extends internal systems planning by adding Internet-based technology, diverse business strategies, and cooperative arrangements on planning requirements. Based on the research framework of Segars and Grover (1998), this study modeled IIOS planning effectiveness as a three-dimensional construct, involving planning alignment, improvement in planning capability, and fulfillment of planning objectives. First, planning alignment applied in this study identifies the close linkage of the IIOS strategy and business strategy. This linkage or alignment facilitates acquisition and deployment of Internet-based systems that are congruent with the interorganizational competitive needs. Segars and Grover (1998) argued that IIOS alignment planning focused on transformation of the business strategy set to the IIOS strategy and a linkage of IIOS objectives with business objectives. Secondly, planning must be improved to assess the planning process adapted over time to ensure its effectiveness, including adapting unexpected environmental and organizational changes. Improvement in IIOS planning capability is defined as the ability of the IIOS planning to continuously improve support of organizational functions. Finally, fulfillment of IIOS planning objectives is a multifaceted concept that depends on the organizational objectives (King, 1988) including increased competitiveness and operational performance, enhanced trading partner relations, and improved information management for strategic planning (DeLone & McLean, 2003).

Alignment between business and IS objectives makes the firm more adaptive (Lee & Pai, 2003). Segars and Grover (1998) also felt that alignment between IS and corporate strategies influenced organizational planning ability. Indeed, increased alignment between business and IS planning reduces IS planning problems and increases the contribution of ISs to organizational performance (Kearns & Lederer, 2004; Teo & King, 1997).

This study conceptualizes the IIOS planning capability in terms of its ability to plan interorganizational systems to analyze IIOS and its associated technologies and enhance business operations and management performance (Lederer, Mirchandani, & Sims, 1996; Segars & Grover, 1999). Moreover, previous studies found a positive relationship between planning capability and IS contribution to business objectives (Wang & Tai, 2003). Similarly, Lin (2006) also argued that effective IIOS planning would provide the organization with a greater IIOS contribution to organizational performance.

FACTORS INFLUENCING IIOS PLANNING EFFECTIVENESS

IIOS planning enables organizations to focus on setting business directions and organizational redesign. The strategy-based

framework also has been expanded to include technological, organizational, and environmental contexts (Evans, 2001; Wang, 2001). For example, since IIOS planning is performed in an organizational and interorganizational process, technological resources (such as IT infrastructure, Internet skills, IIOS know-how) and organizational characteristics (such as perceived benefits, organizational compatibility, financial resources, and firm size) may significantly influence its success (Lederer, Mirchandani, & Sims, 2001; Shi, 2002). Moreover, the competitive dynamics of an industry and the way that a firm competes significantly affect the firm's IS implementation success (Bradford & Florin, 2003). Numerous studies have examined the influence of competitive pressure on the use of Internet-based systems for competitive advantage (Ramamurthy, Premkumar, & Crum, 1999; Ranganathan, Dhaliwal, & Teo, 2004; S. Wang & Cheung, 2004). Chi et al. (2005) also argued that firms evaluate their external business opportunities and threats by assessing their achievement of strategic IS planning objectives. Additionally, much of the research on the influence of trading partners on technology adoption has focused on the implementation of EDI (Chwelos, Benbasat, & Dexter, 2001; S. Lee & Lim, 2003) and the Internet-based electronic marketplaces (Fairchild, Ribbers, & Nooteboom, 2004; Pavlou, 2002). For similar reasons, competitive necessity and interorganizational relationships may contribute to successful IIOS planning and implementation. Hence, this study proposes that technological, organizational, and environmental contexts were major influencing factors in the success of IIOS planning. The following sections detail each of the influencing factors.

Technological Factors

A case study by Cerpa and Verner (1998) demonstrated that alignment of IS planning with business objectives is necessary for IS function maturity. Moreover, as Internet-based IS functions have matured and an IIOS planning framework has been adopted by IS planners, the IIOS planning has also matured (Detlor, 2001). Organizations with greater IIOS maturity perceive IIOS applications as important, and understanding of organizational resource requirements and the aligning of IIOS strategy with business strategy will improve over time.

The technical competence of a firm is a strong enabler of IS planning success (Brown & Magill, 1998; Niederman & Brancheu, 1991). Consistent with previous studies (Bharadwaj, 2000; Mata, Fuerst, & Barney, 1995), this study defined technology competence as consisting of IT infrastructure and IT human resources, where IT infrastructure referred to technologies that enable IIOS-related businesses and where IT human resources referred to employees with the knowledge and skills needed to implement IIOS-related applications. IT infrastructure provides a platform for building IIOS, and technical know-how provides the Internet-based skills for developing IIOS applications (Lin

& Lee, 2005). Therefore, firms with sufficient technological competence have stronger incentives than firms that lack technology competence to achieve IIOS planning alignment and pursue planning capabilities.

Organizational Factors

Top management support is important, of course (Ragu-Nathan, Apigian, Ragu-Nathan, & Tu, 2004). Numerous studies have found it essential in creating a supportive climate and providing sufficient resources (Chatterjee, Grewal, & Sambamurthy, 2002). Moreover, Kearns and Lederer (2004) proposed that top management participation encourages other functional managers to join in the process and, thus, elicit their knowledge of business processes. Consequently, top management support might help and lead to effective IIOS planning.

The relationship between the organizational and IS leaderships (i.e., CEO/CIO relationship) has been identified as a critical factor affecting the IS planning and IS performance in an organization. For example, from a recent survey conducted by Khandelwal (2001), what CEOs perceive as key IT management issues sometimes differ from the view of IS executives. Khandelwal (2001) further indicated that this difference may cause inappropriate alignment between business and ISs. Therefore, to improve the CEO/CIO relationship, CEOs must understand the capabilities of ISs and be willing to exploit IS opportunities and threats (Jones, Taylor, & Spencer, 1995). Based on three case studies from diverse industries, Ranganathan and Kannabiran (2004) concluded that a good CEO/CIO relationship is necessary for effective management of IS function.

Environmental Factors

In the IS area, numerous studies have found a positive relationship among environmental uncertainty, IS management, and organizational performance (Sabherwal & Vijayasarathy, 1994; Bergeron, Raymond, & Rivard, 2001). Moreover, diversity in product lines and changes in competitors' strategies are positively associated with higher dependence on IT and IS planning practices (Kearns & Lederer, 2004). Choe (2003) also empirically showed a positive relationship between perceived environmental uncertainties and IS alignment. Furthermore, corporate e-commerce initiatives and plans may be broadly considered a competitive weapon for coping with uncertain environments (Patterson, Grimm, & Crosi, 2003). Firms facing environmental uncertainty thus have a greater incentive to enhance the alignment of IIOS and business strategies and improve their organizational planning capabilities.

Competitive pressure is defined here as the pressure that results from a threat of losing competitive advantage, forcing firms to plan for new business and IS strategies (Abrahamson & Bartner, 1990). Corporate e-commerce initiatives and plans may be considered to provide a competitive weapon

for coping with competitive environments (Patterson et al., 2003). Firms that are first in deploying IIOS have tended to derive greater advantage. Thus, the firm has a greater incentive to align IIOS and business strategies and improve their organizational planning capability.

Some IS studies have recognized the significance of trading partner readiness in successfully implementing IIOS. For example, Marshall and Mckay (2002) showed that the benefits perceived by trading partners, and the anticipated advantage that IIOS can provide trading partners, significantly influence IIOS planning. Simatupang, Wright, and Sridharan (2002) argued that greater trading partner expertise would provide firms with an external reason for implementing and using IIOS linkages. Additionally, Segars and Grover (1998) indicated that partnerships among functional managers and business partners were crucial to the alignment and success of strategic IS planning.

AN INTEGRATIVE CONCEPTUAL FRAMEWORK

Based on the interorganizational relationship perspectives, organizational theory, and IS planning literatures (Doherty, Marples, & Suhaimi, 1999; Hong, 2002; Ranganathan &

Kannabiran, 2004; Segars & Grover, 1998), this study proposes an integrative conceptual framework (see Figure 31.1) to discuss a set of seven antecedent factors (two technological factors, two organizational factors, and three environmental factors) that were expected to influence IIOS planning effectiveness. The emphasis on the influence of technological factors (IIOS maturity and technology competence), organizational factors (top management support and CEO/CIO relationship), and environmental factors (environmental uncertainty, competitive pressure, and trading partner readiness) on IIOS planning effectiveness (planning alignment, improvement in planning capability, and fulfillment of planning objectives) is clear.

We do not contend that these are the only factors that need consideration when deciding on ways to effectively manage the IIOS planning. They are, however, important elements that may influence whether an organization can accomplish effective IIOS planning.

In summary, this study has presented some key factors that an organization needs to consider in order to develop effective IIOS planning. These factors are as follows:

1. *IIOS maturity.* The maturity of IIOS positively correlates with IIOS planning alignment and improvement in IIOS planning capability. As the IS personnel gains experiences with developing important IT/IS, and as the CEO and

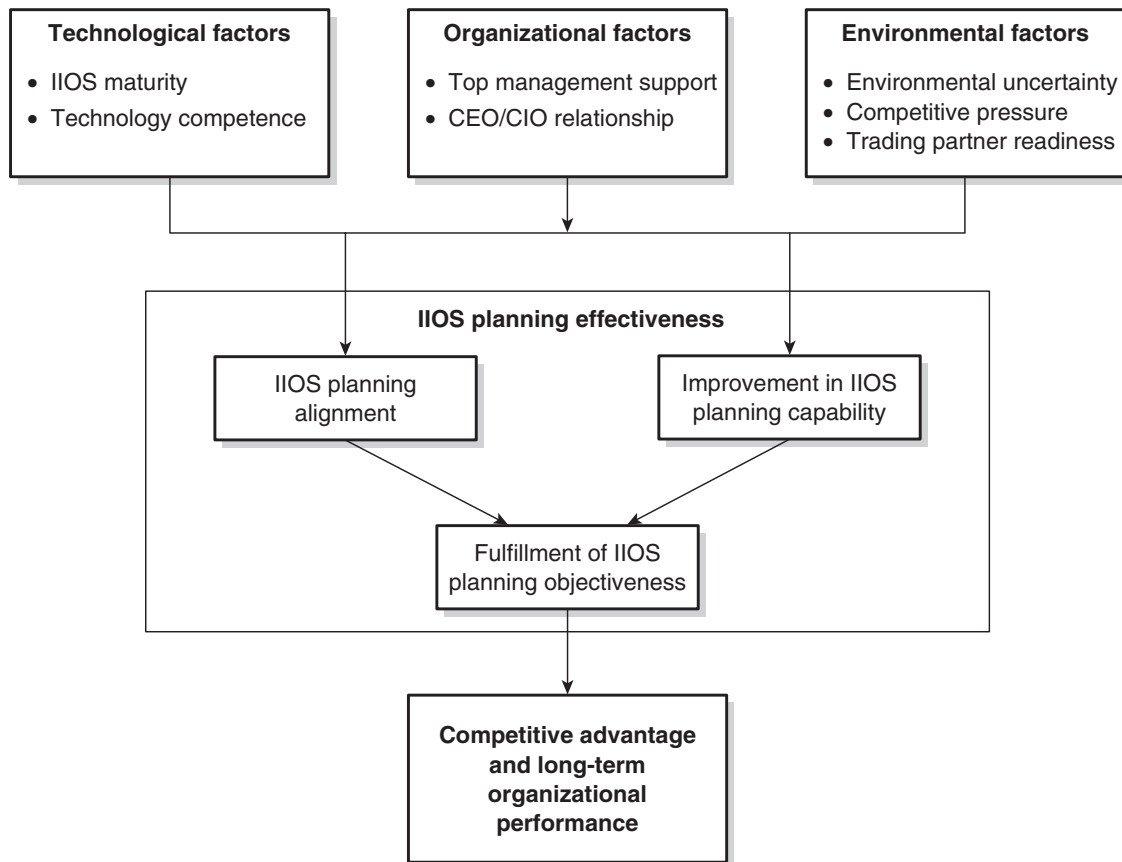


Figure 31.1 An Integrative Framework: Factors Influencing IIOS Planning Effectiveness

users recognize the strategic potential of IT, a shift may be expected from an internal orientation toward applications that enhance business competitiveness (King & Sabherwal, 1992). Similarly, Chang et al. (2003) argued that as IIOS have matured, Internet-based technologies have been applied to a wide range of activities up and down the value-added chain, both within and outside organizations. Consequently, the utilization of IIOS is an important determinant of successful IIOS planning.

2. *Technology competence.* Technology competence is conceptualized as an overall trait of technological advantage. This factor breaks down into three dimensions: (a) IT infrastructure, (b) Internet skill, and (c) technical expertise. The three dimensions of technology competence should not be considered in isolation from each other, but should be treated in a collective and mutually reinforcing manner. Technology competence positively correlates with IIOS planning alignment and improvement in IIOS planning capability. This proposition is consistent with the expectation that more technologically competent firms are more likely to align IIOS with business needs, identify new business opportunities, and achieve organizational objectives. Consequently, providing sufficient technology resources is critical for firms to pursue effective IIOS planning.

3. *Top management support.* Top management support will have to play an important role in establishing some of the key conditions required to facilitate IIOS planning and implementation. Top management support is significantly related to IIOS planning alignment and improvement in IIOS planning capability. Lack of top management support and understanding has even caused major IS planning failure (Lee & Lim, 2003). It is also consistent with the fact that top management's direct participation in IIOS planning study signals the importance of IIOS to the other executives in the organization and ensures their cooperation and support, contributing to the overall success of IIOS planning.

4. *CEO/CIO relationship.* This study suggests that the CEO/CIO relationship is significantly related to the IIOS planning alignment and improvement in IIOS planning capability. That is, the relationship between CEO and CIO is a good predictor of IIOS planning alignment and planning capability. Previous studies have emphasized that the alignment of IS planning with business objectives requires the CEO and CIO to assume joint responsibility for achieving benefits through IS investments (Jones et al., 1995; Kearns & Lederer, 2000). Consequently, this study suggests that increasing the amount of time the CIO spends communicating with the CEO regarding IIOS planning study and educating the CEO about IIOS opportunities and threats improves the CEO/CIO relationship.

5. *Environmental uncertainty.* Environmental uncertainty refers to the external threat posed by changes in customers' preferences, competitors' strategies and prices, and diversity in product lines. Kearns and Lederer (1999) argued that the role of CEO in strategic IS planning and the CIO in business planning may become more important under

environmental uncertainty, especially for firms highly dependent on IS/IT. Environmental uncertainty is recognized as an important contextual factor that can explain the role of IIOS planning within an organization. For example, greater diversity creates structural challenges that can be met by the integrative and communicative abilities of IIOS that support strategic decision making. Moreover, under increased threat from the external environment (such as environmental hostility and environmental heterogeneity), it becomes even more necessary that IIOS investments support business objectiveness and, thus, have a greater incentive to enhance the alignment of IIOS and business strategies and improve IIOS planning capability.

6. *Competitive pressure.* Competitive pressure, as previously defined, is the degree of pressure exerted by competitors on the IIOS implementation decision. The emergence of competitive pressure is a key influence on both IIOS planning alignment and planning capability. Competitive intensity, or competitive pressure, has been cited as an important environmental factor for achieving effective IIOS planning. This variable is consistent with expectations that a firm's concerns about competitive advantage and performance drove IIOS implementation plan development.

7. *Trading partner readiness.* Partner relationships in the IIOS are important issues for both practitioners and academicians (Futla, Bodorik, & Dhaliwal, 2002; Marshall & McKay, 2002). Even if partner relationships have been traditionally associated with successful buyer-seller relationships, partnerships have been recently regarded as the foundation of IIOS (Leidner, 1999; Ratnasingam & Pavlou, 2003). In this study, trading partner readiness can be viewed as the potential partner willingness and ability to use IIOS. Trading partner readiness has emerged as a key influence on IIOS planning alignment and improvement in IIOS planning capability. In situations where greater mutual dependence between firms and their trading partners is expected, firms are likely to gain an improved understanding of the needs of trading partners and of external opportunities and threats. This understanding will, in turn, significantly help the firm to achieve its IIOS planning effectiveness. Consequently, inducing trading partner participation in the alignment between IIOS and business objectives can enhance and increase organizational planning capability.

Additionally, a discussion of the relationships among subdimensions of IIOS planning effectiveness follows.

First, IIOS planning alignment positively influences improvement in planning capability. This implies that IIOS planning alignment is a prerequisite for improvement in planning capability. Second, IIOS planning alignment and planning capability were positively correlated with fulfillment of planning objectives. As C. S. Lee (2001), as well as Kearns and Lederer (2004), noted, effective IIOS planning not only can let firms establish electronic links with trading partners, but also can enhance organizational performance. Finally, IIOS planning effectiveness has to facilitate a firm's competitive advantage and long-term, organizational-level

benefits. Marshall and McKay (2002) also identified that effective IIOS planning helps organizations cope with the competitive environment and enhances organizational performance.

IMPLICATIONS FOR PRACTITIONERS

IIOS implementation has become increasingly complex, costly, and risky owing to changing business processes, strong competitive pressure, and rapid and radical technological changes. Hence, effective IIOS planning plays an important role in many situations and certainly in IIOS implementation and management. It also needs to consider the effects of environmental and organizational factors on the success of interorganizational systems planning within the specific context of Internet-based systems. This study has the following managerial implications for practitioners initiating or currently conducting IIOS planning exercises:

1. IIOS maturity emerges as a key variable, indicating that the greater the importance of IIOS, the greater the degree of acceptance of IIOS planning. IIOS maturity is no longer a competitive tool but a strategic necessity. Top management and IS executives are assured that the firm's extensive use of IIOS can facilitate the systems planning to support the implementation of IIOS.

2. Technology competence has emerged as another key variable, indicating that the degree of acceptance of IIOS planning increases with the importance of IIOS. Firms must pay great attention to their technical capability to achieve IIOS planning effectiveness and must keep in mind that technology competence includes both tangible IT infrastructure and intangible IT human resources. As IIOS becomes a necessity, the significance of technical and managerial knowledge for IIOS planning becomes increasingly significant.

3. Because top management support was an important factor for IIOS planning effectiveness, top management should establish closer relationships and long-term commitment with business partners such as empowered cross-functional and interorganizational teams. In a similar vein, top management must also recognize that exploiting the full potential of IIOS will require more than a financial investment to initiate IIOS planning and, then, to reap the organizational-level outcomes.

4. CEO/CIO relationships were important facilitators for planning success of IIOS and for the firm's executive performance. IS executives should be proactive in their efforts to identify opportunities from emerging Internet-based technologies and educate senior management. Specifically, top management should establish closer relationships and long-term commitment with business partners such as empowered cross-functional and interorganizational teams. Consequently, top management and IS executives benefit by recognizing the importance of organizational support and commitment and carefully shaping IIOS planning practices to reap the organizational-level outcomes.

5. This study argued that competitive pressure predicated achievement of IIOS planning effectiveness. It implies that practitioners may rapidly respond to changes in the competitive environment and may want to consider increasing their involvement in future IIOS planning. Simultaneously, the emergence of trading partner readiness as a key variable emphasizes the need to plan Internet-based transaction processing systems between organizations. The firm must build mutual trust and a cooperative relationship with trading partners to facilitate IIOS planning effectiveness. Consequently, this study suggests that inducing trading partner participation in the alignment between IIOS and business objectives can enhance and increase organizational planning capability.

6. IIOS planning is an organizational and interorganizational process. Introducing IIOS involves not only technical conditions, but also considerable environmental and organizational changes including changes in trading partnerships, beliefs and attitudes of senior executives, managerial styles, and shared values. Consequently, appropriately considering technological, organizational, and environmental contexts is necessary for effective IIOS planning.

IMPLICATIONS FOR RESEARCHERS

Although both consulting companies and academic institutions have extensively studied IIOS planning, numerous problems remain unresolved (Min, Suh, & Kim, 1999). Conventional IS planning approaches emphasize the rational and formal aspects of organizational life and ignore the complexities and messiness inherent in actual organizational situations, which are fraught with power relations and human behavior (Huysman, Fischer, & Heng, 1994). An investigation of IS planning demonstrated that only 24% of planned IS applications were actually developed (Flynn & Arce, 1995), confirming that IS planning processes require improvement.

Rapid advances in Internet and Web technology have led to the development of IIOS frameworks that consider e-commerce and e-business (Pant & Ravichandran, 2001; Raghunathan & Madey, 1999). For example, Raghunathan and Madey (1999) suggested an IS planning framework which focuses on the development of e-business applications, providing a three-dimensional coordinate axis to classify business models and establish an IS architecture for a particular model. Pant and Ravichandran (2001) presented an IS planning framework for developing e-business information systems designed to produce an information architecture based on the IT infrastructure of Internet and Web technology. These frameworks, however, do not explore the key factors (such as technological, organizational, and environmental contexts) that can influence IIOS planning effectiveness.

These frameworks may help strategic business planners to understand how to rapidly plan Internet and Web-based information systems. These frameworks, however, appear

somewhat normative in that they do not consider technological, organizational, and environmental problems involving how IIOS planning should be done and how to best exploit current contexts. Furthermore, while focusing on developing particular IIOS applications, these frameworks have neglected the importance of incorporating organizational considerations into IIOS planning objectives. This may cause problems in the IIOS planning process, such as an inability to satisfy trading partners, the creation of IIOS plans that are unable to achieve internal organizational consistency, an inability to achieve organizational goals in change management, and an inability to meet planning objectives.

To achieve planning objectives for IIOS as well as e-business and e-commerce in the network era, this study suggests that organizations must consider organizational factors while conducting IIOS planning. Future researchers could develop IIOS planning frameworks (or models) that integrate managerial mechanisms related to organizational environment to enhance the IIOS planning effectiveness, such as innovation characteristics, knowledge sharing behaviors, and organizational learning factors. These mechanisms also can provide practitioners with a set of considerations that may merit special attention. In particular, change management mechanism could be viewed as a core of IIOS planning in the digital era since the introduction of e-strategies (such as enterprise resource planning, customer relationship management and supply chain management) may impact the organizational and IS/IT infrastructures. As King (2000) contended, the best IS planning involves using a methodology that “fits” the organization’s culture, style, sophistication, and IS capabilities. Organizations could apply both trading partner relationships and technology competence to fit the organizational context and promote the formulation of an organizational learning environment during IIOS planning. Moreover, future studies could seek an enhanced understanding of the effects on IIOS planning of the technological, organizational, and environmental factors discussed in the integrative framework through structured interviews and case studies of IS executives dealing with ongoing or recently completed IIOS planning projects.

CONCLUSIONS

IIOS planning is based on a portfolio of Internet-based systems that integrate organizational and interorganizational processes and assist a firm in realizing its organizational objectives. The contribution of this study is to elaborate and integrate technological, organizational, and environmental factors that can influence the effectiveness of IIOS planning. Previous writing on this topic has dealt with this issue only in a fragmented way.

This study presents an integrative framework, focusing on key factors that can influence IIOS planning effectiveness. It explores the influence of technological factors (IIOS

maturity and technology competence), organizational factors (top management support and CEO/CIO relationship), and environmental factors (environmental uncertainty, competitive pressure, and trading partner readiness) on IIOS planning effectiveness (planning alignment, improvement in planning capability, and fulfillment of planning objectives). This integrative framework suggests that technological capabilities, internal organizational resources, and external competitive pressures could affect successful IIOS planning. This framework also provides some direction for e-business managers and IIOS planners, as well as researchers interested in IIOS planning and management.

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THE COMPETITIVE ADVANTAGE OF INTERCONNECTED FIRMS

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In recent years, the formation of interfirm alliances has become a popular practice, leading to the evolution of interconnected firms, which are embedded in alliance networks. This entry seeks to account for the factors driving the competitive advantage of such firms by highlighting the role of network resources. It distinguishes shared resources from nonshared resources in alliances, identifies various types of rent,¹ and illustrates how firm-specific, relation-specific, and partner-specific factors determine the contribution of network resources to the rents that interconnected firms extract from their alliance networks. This entry revisits the assumptions of the resource-based view and suggests that the nature of relationships may matter more than the nature of resources for the competitive advantage of interconnected firms. By integrating competition and collaboration as vehicles of value creation and appropriation, this entry seeks to advance our understanding of the challenges and prospects of managing dynamic organizations in the 21st century. In a world of interconnected firms and interdependent corporate strategies, traditional perspectives on how firms gain competitive advantage must be revisited and more attention must be paid to emerging theories of the firm.

INTRODUCTION

At the turn of the 21st century, the competitive environment has changed dramatically. As the reliance on interfirm alliances (henceforth termed alliances) has gained popularity,

firms can no longer be considered simply as independent entities competing for favorable market positions and protecting their core assets from imitation and appropriation. Instead, firms have become interconnected in the sense that they engage in multiple simultaneous alliances. Alliances can be defined as collaborative arrangements among independent firms, involving exchange, sharing, and co-development activities designed to achieve the strategic goals of these firms. Alliances take different forms, including joint ventures, joint marketing initiatives, and affiliation in research consortia.

Although alliances have been extensively studied in the fields of economics, sociology, organization theory, international business, and strategic management, traditional theories of the firm offer limited explanations of the interconnected firm phenomenon because of their emphasis of competitive dynamics. On the one hand, such traditional theories undervalue the important contribution of alliances to firm behavior and performance. On the other hand, the proliferating alliance literature offers mainly analysis of dyadic relationships or network structures rather than a firm-centric perspective. Hence, a need arises for a theory that explains how interconnected firms evolve and how their alliance networks affect their performance.

Theories of the firm address three questions concerning the nature of the firm: (a) Why do firms emerge; (b) why do firms differ in their scale, scope, and organization of activities; and (c) what accounts for heterogeneity in their performance? While the strategic management literature is

mostly concerned with the latter question, understanding of firm nature is necessary for the development of a theory of the firm. The validity of different theories of the firm has been a subject for a fertile debate in the strategic management literature. Although some of these theories can be broadly used, their assumptions require scrutiny when applied to the study of the interconnected firm. For example, with his microanalytic approach, Williamson (1975) adopted the transaction as the unit of analysis, arguing that the firm emerges in order to economize on transaction costs accrued due to bounded rationality and opportunistic behavior. Transaction-cost economics offers an explanation of firm existence but falls short of providing a comprehensive theory of the interconnected firm because it tends to consider markets and hierarchies as two discrete governance modes and its atomistic unit of analysis cannot capture the idiosyncrasies of interconnected firms that typically integrate internalized and market transactions. In addition, it disregards interdependence in partners' exchange decisions and, as Zajac and Olsen (1993) noted, overemphasizes contractual aspects of transactions at the expense of process issues.

Similarly, the resource-based view has emerged as a theory of the firm that addresses the three fundamental questions of existence, interfirm differences, and performance heterogeneity. It conceptualizes firms as heterogeneous entities consisting of bundles of idiosyncratic resources and suggests that the firm exists where it has advantage over the market in deploying productive resources. It goes one step further to explain the superiority of a particular firm relative to other firms and emphasizes performance differences across firms. However, the resource-based view maintains that resources that confer competitive advantage must be confined by firm boundaries. This proprietary assumption limits accurate evaluation of interconnected firms, whose performance depends not only on the contribution of internal resources but also on network resources. Network resources reside in alliances in which the interconnected firm is involved rather than within the scope of the firm's organizational boundaries. Nevertheless, Gulati (1999) suggested that they provide strategic opportunities and affect firm behavior and value. Hence, the fundamental assumptions of traditional theories of the firm, which de-emphasize the role of network resources, limit their applicability in the case of interconnected firms.

The relational view, which has been advanced by Dyer and Singh (1998) overcomes some of these limitations by acknowledging that critical resources may span firm boundaries. The relational view advances a theory of value creation in alliances and points to the fact that interconnected firms can accrue some rents from alliances. Such relational rents accrue to alliance partners through combination, exchange, and codevelopment of idiosyncratic resources. The relational view articulates the logic of value creation in alliance networks but leaves open the question of what drives appropriation of relational rent by interconnected firms.

After discussing the emergence of the interconnected firm and illustrating some of the limitations of traditional

theories of the firm, this entry incorporates the notion of network resources in order to evaluate the competitive advantage of interconnected firms. Instead of applying the traditional resource-based view for explaining the phenomenon of interconnected firms, it revisits the theoretical underpinning of the resource-based view by considering the implications of alliance networks. It reveals how an interconnected firm can extract value from resources that it does not fully own or control, thus allowing for the estimation of various types of rent that the firm generates through its usage of network resources. The proposed model distinguishes shared resources from nonshared resources and illustrates how firm-specific, relation-specific, and partner-specific factors determine the contribution of network resources to the rents that firms extract from their alliance networks. For example, it suggests that interconnected firms can benefit not only from jointly created relational rents but also from spillover rents, which are extracted in an involuntary way for unintended purposes. It highlights some unique aspects of interconnected firms, explaining why the nature of relationships may matter more than the nature of resources in creating and sustaining competitive advantage in networked environments.

THE EMERGENCE OF THE INTERCONNECTED FIRM

Since the early 1980s, scholars have observed the proliferation and increased popularity of alliances (Gulati, 1998; Hagedoorn, 1993). The recent growth in alliance formation can be ascribed to exogenous changes in the competitive environment. For example, in some industries, Schumpeterian competition has evolved, which is characterized by rapid technological innovation and turbulent market conditions. In such an environment, alliances emerge to allow flexible and more rapid adjustment to changing market conditions and to reduce time to market in response to shortened product life cycles. In the face of increased pressures for globalization, alliances also assist in bridging national boundaries, providing market access, and extending competitive advantage to emerging markets. More generally, alliances reduce market uncertainty and stabilize the firm's competitive environment by forming norms of reciprocity that establish commitment and regulate exchange transactions. Prior research confirms that firms establish alliances to enhance predictability and share costs and risks (Eisenhardt & Schoonhoven, 1996; Powell, Koput, & Smith-Doerr, 1996) but also recognizes path dependence in alliance formation wherein the firm's prior alliances guide its choice of new alliance partners (Ahuja, 2000; Gulati, 1995). Together, these forces have led to tremendous growth in the number of alliances and, consequently, to the proliferation of interconnected firms.

The emergence of interconnected firms is a contemporary phenomenon. Although alliances had been formed in earlier decades, they were conceived of as ad hoc arrangements

serving specific needs. Nowadays, more firms engage in alliance formation and participate in multiple simultaneous alliances. For example, based on a sample of publicly traded firms in the software industry, the percentage of interconnected firms has increased from 32% to 95%, and the size of a typical alliance network rose from 4 alliances per firm to over 30 alliances per firm during the 1990s, demonstrating the rapid evolution of interconnected firms in this industry (Lavie, 2004). Not only has the number of alliances increased, but the scope of alliances has also been extended. Whereas firms have previously engaged in alliances for performing relatively simple peripheral activities, in recent years, alliances have been used at various stages of research and development (R&D), production, and marketing in almost any industry. Corroborating this claim, a Booz-Allen & Hamilton survey indicated that the portion of revenues that interconnected firms extract from their alliances increased from 2% in 1980 to 19% in 1996. Another survey, conducted by Accenture, attributed 16% to 25% of median firm value to alliances. In sum, interconnected firms have been forming alliances in increasing numbers and have assigned to their alliance networks a central role in the development and operation of their businesses.

The emergence of the interconnected firm underscores the role of alliance partners as dominant stakeholders that form an evolving interface between the firm and its environment. In rapidly changing environments, alliance partners provide the interconnected firm with an efficient mechanism for obtaining nontradeable resources, timely information, market access, and referrals. A firm becomes interconnected when it forms its first alliance and ceases to be interconnected when it dissolves its last alliance. Firms experience different degrees of interconnectedness over time. In the embryonic stage of evolution, interconnected firms operate a limited number of alliances, but these alliances are critical for their survival and performance. The more affluent the firm with internal resources, the more attractive it becomes to potential partners, but at the same time, it is less dependent on network resources and, thus, less motivated to form additional alliances. Therefore, the firm's motivation for forming alliances will be greatest at the embryonic stage of evolution when it faces a saturated market or economic slowdown or when it undergoes a strategic change or restructuring. Ironically, these are likely to be the occasions when the interconnected firm is less attractive to partners. Stated differently, the interconnected firm experiences excessive demand for alliance partners early and late in its life cycle or at the verge of a disruptive

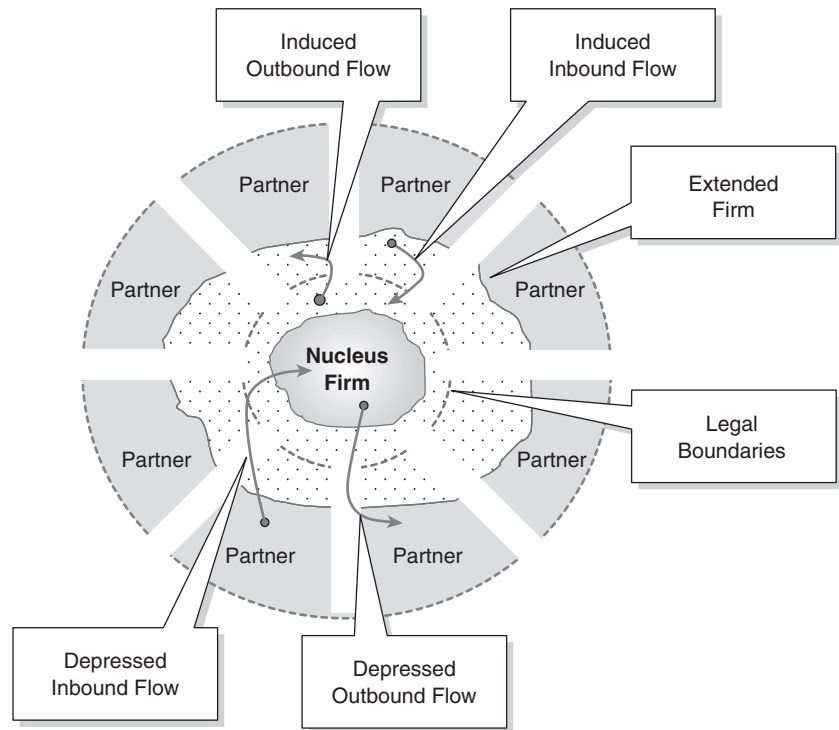


Figure 32.1 The Competitive Advantage of Interconnected Firms

change, whereas oversupply of prospective partners exists for established firms that operate in stable competitive environments.

The evolution of the interconnected firm is path dependent since prior alliance relationships impose constraints and offer opportunities for forming new alliances. Although each alliance relies on a short-term contract and is typically short-lived, from the perspective of the interconnected firm, the alliance network is dynamically evolving yet durable. Hence, alliances serve a more critical role than previously assumed in the evolution of the interconnected firm. Interconnected firms can specialize by focusing on their core assets, while simultaneously experimenting and exploring opportunities by dynamically modifying the composition of partners in their alliance network.

The interconnected firm maintains a complex form of interaction with its environment. As illustrated in Figure 32.1, the interconnected firm discretionally operates through an interface of alliance partners that buffers the legally defined firm from its competitive environment. At the same time, it maintains unmediated interaction with customers, suppliers, and competitors.

The Configuration of the Interconnected Firm

The legal boundaries of the interconnected firm matter less than the boundaries of the nucleus firm and the extended firm. The extended firm confines all resources accessible to the focal firm by virtue of its authority relationships, proprietary asset ownership, and alliance agreements. The

nucleus firm is defined by the proprietary resources that the firm does not share with its alliance partners. Clearly, the scope of the nucleus firm is narrower than the scope of the legally defined firm. The aggregated scope of the legally defined firm and its partners' resource endowments demarcate the boundaries of the extended firm.

The notions of extended firm and nucleus firm illustrate how artificially defined the legal boundaries of the interconnected firm are. Moreover, both the nucleus firm and the extended firm are porous in the sense that they allow for inbound and outbound flows of resources. The firm can use its network of alliances to accumulate asset stocks essential for gaining competitive advantage. However, the alliance network may also incur losses because of outbound flows, which ultimately lead to the loss of competitive advantage. Another distinction can be made between induced flows and depressed flows. Induced flows are encouraged by both the firm and its partners. They refer to the transfer of intentionally committed resources for the pursuit of agreed upon alliance objectives. These flows are essential for the combination, exchange, and codevelopment of idiosyncratic assets. Depressed flows are those originating outside the scope of alliances and serving for the transfer of resources despite the resistance of the resource owner. Whereas depressed inbound flows can be beneficial to the focal firm, the effect of depressed outbound flows can be destructive. Interconnected firms may seek to depress outbound flows because of the adverse consequences of resource leakage for their long-term competitive standing. As later explained, depressed flows of resources generate spillover rents whereas induced flows of resources serve in the creation of relational rent.

THEORETICAL IMPLICATIONS FOR THEORIES OF THE FIRM

Traditional perspectives on competitive advantage such as the resource-based view have envisioned firms as independent entities. Consequently, these perspectives have provided only a partial account of competitive advantage in view of the recent growth and significance of alliances. Unfortunately, the rapidly evolving alliance literature has developed its own agenda by focusing on phenomenon-driven research and by drawing from various theories such as the resource-based view, transaction-cost economics, learning and knowledge management, game theory, and social network theories (Osborn & Hagedoorn, 1997). Its emphasis on alliance formation and alliance performance has left a gap between traditional theories of the firm and observations concerning the performance of interconnected firms.

Alliance research has considered the role that alliance networks play in affecting the performance of member firms (Gulati, Nohria, & Zaheer, 2000). It has focused on the motivation for alliance formation, the identity of firms participating in alliances, the selection of partners,

the management of alliances, the determinants of the governance structure or mode of alliance, learning dynamics in alliances, and alliance performance (Gulati, 1998). Interestingly, this research has evolved almost independently from traditional theories of the firm that in turn highlight interfirm competition rather than cooperation.

The gap between traditional theories of the firm and alliance research has left open the question of how interconnected firms gain competitive advantage. Hence, theories such as the resource-based view (Barney, 1991; Wernerfelt, 1984) cannot, in and of themselves, explain how firms that maintain frequent and multiple collaborative relationships with alliance partners gain competitive advantage. Whereas alliance research has provided tools for evaluating value creation and appropriation at the dyad or network level, the integrated contribution of internal and external sources of competitive advantage to firm performance deserves more attention.

The resource-based view is one of the most influential frameworks in strategic management. Rooted in the early work of Penrose (1959), the resource-based view adopted an inward-looking view according to which firms are conceptualized as heterogeneous entities consisting of bundles of idiosyncratic resources. Wernerfelt (1984) and Rumelt (1984) advanced the resource-based view by arguing that the internal development of resources, the nature of these resources, and different methods of employing resources are related to profitability. Hence, firms can develop isolating mechanisms or resource-position barriers that secure economic rents. Dierickx and Cool (1989) provided a more dynamic perspective by arguing that it is not the flow of resources but the accumulated stock of resources that matters and that only those resources that are nontradable, nonimitable, and nonsubstitutable are essential for competitive advantage.

By tying the nature of resources to competitive advantage, the resource-based view suggests that resources lead to Ricardian and quasi-rents. To explicate this phenomenon, Barney (1991) identified value, rarity, imperfect imitability, and imperfect substitutability as resource characteristics that are essential for gaining sustainable competitive advantage. Similarly, Peteraf (1993) elucidated the link between resources and economic rents by identifying resource heterogeneity, limits to competition, and imperfect resource mobility as conditions for competitive advantage. These studies latently assumed that the appropriability of rents requires ownership or at least complete control of the rent-generating resources.

The resource-based view has been recently applied to the study of alliances (e.g., Eisenhardt & Schoonhoven, 1996) but retained the fundamental assumption that resources that confer competitive advantage must be confined by the firm's boundaries. The resource-based view's assumption of ownership and control is embedded in most resource definitions. For instance, Wernerfelt (1984) defined resources as "tangible and intangible assets which *are tied semi-permanently*

to the firm [italics added]" (p. 172). Barney (1991) perceived resources as "all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. *controlled by the firm* [italics added] that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness" (p. 101). Finally, Amit and Schoemaker (1993) defined resources as "stocks of available factors that are *owned or controlled by the firm* [italics added]" (p. 35). This proprietary assumption is not limited to resource definitions but rather concerns the core idea that firms secure rents by imposing resource-position barriers that protect their proprietary resources from imitation and substitution.

The traditional resource-based view has assumed away cooperative interactions via which resources of counterpart firms may enhance firm performance. This proprietary assumption of the resource-based view becomes critical in light of the accumulated evidence on the contribution of network resources to the performance of interconnected firms. Empirical research has found that firms benefit from their alliance partners' technological resources and reputation and that firm performance and survival depend on the nature of complementary resources of partners (e.g., Afuah, 2000; Rothaermel, 2001; Stuart, 2000). Hence, the resource-based view has failed to acknowledge the direct sharing of resources and the indirect transferability of benefits associated with these resources. The fundamental assumption that firms must own or at least fully control the resources that confer competitive advantage turns out to be incorrect. Ownership and control of resources are not necessary conditions for competitive advantage. A weaker condition of resource accessibility, which establishes the right to utilize and employ resources or enjoy their associated benefits, may suffice.

The proprietary assumption of the resource-based view prevents an accurate evaluation of an interconnected firm's competitive advantage. Following the rationale of the resource-based view, a firm should be valued based only on the contribution of its internal resources. However, the empirical findings showing abnormal stock market returns following alliance announcements (Anand & Khanna, 2000; Balakrishnan & Koza, 1993; Koh & Venkatraman, 1991; Reuer & Koza, 2000) suggest that firm valuation should be based not only on the internal resources but also on the resource endowments of alliance partners. Hence, needed is an overarching theoretical framework that relates network resources to competitive advantage.

A RESOURCE-BASED THEORY OF THE INTERCONNECTED FIRM

Following Barney's (1991) formulation of the resource-based view, we can refer to the broad definition of resources as all types of assets, organizational processes, knowledge, capabilities, and other potential sources of competitive advantage that are owned or controlled by the focal firm. Traditionally, the firm has been said to possess a set of resources that can produce a positive, neutral, or negative

impact on its overall competitive advantage. This impact depends on two characteristics of each resource, namely its value and its rarity. In addition, the firm's competitive advantage is influenced by interactions, combinations, and complementarities across internal resources of the firm. The competitive advantage of the firm can be understood as a function of the combined value and rarity of all firm resources and resource interactions.

Prior to reformulating the resource-based view, it is necessary to examine whether its fundamental resource heterogeneity and imperfect mobility conditions still hold for interconnected firms. Resource heterogeneity requires that not all firms possess the same amount and kinds of resources, whereas imperfect mobility entails resources that are non-tradable or less valuable to other users besides the firm that owns them (Peteraf, 1993). The heterogeneity condition is tied to the conceptualization of firms as independent entities. This condition remains critical, although alliances may contribute to resource homogeneity by facilitating asset flows among interconnected firms. Generally, alliances do not enhance competitive advantage by means of contributing to resource heterogeneity. However, under conditions of pure resource homogeneity, alliances will be formed solely for collusive purposes rather than to gain access to complementary resources. Mergers and acquisitions may be even more effective from alliances for such purpose since they entail unified governance. The imperfect mobility condition is also relevant for interconnected firms. Under perfect mobility, resources can be traded and accessed without forming alliances. However, alliances can serve as means for mobilizing resources that have been traditionally considered immobile. Even when resources cannot be mobilized, alliances enable the transfer of benefits associated with such resources and, thus, weaken the imperfect mobility condition.

Relaxing the proprietary assumption of the resource-based view, we now allow for the resources of partners to affect the competitive advantage of the focal firm. When an alliance is formed, each participating firm endows a subset of its resources to the alliance with the expectation of generating common benefits from the shared resources of both firms. Therefore, each firm possesses a subset of shared resources and a subset of nonshared resources that together form its complete set of resources. Different degrees of convergence may exist between the resources of the interconnected firm and the resources of its partners. When the intersection of shared resource sets, which includes similar resources that both the interconnected firm and its partner own, is substantial, we can identify the alliance with that particular partner as a pooling alliance in which the firm and its partner pool their resources together to achieve a greater scale and enhanced competitive position in their industry. In contrast, when this intersection is diminutive, the alliance can be described as a complementary alliance in which the parties involved seek to achieve synergies by employing distinct resources.

The resource-based competitive advantage of an interconnected firm can be partitioned into four elements

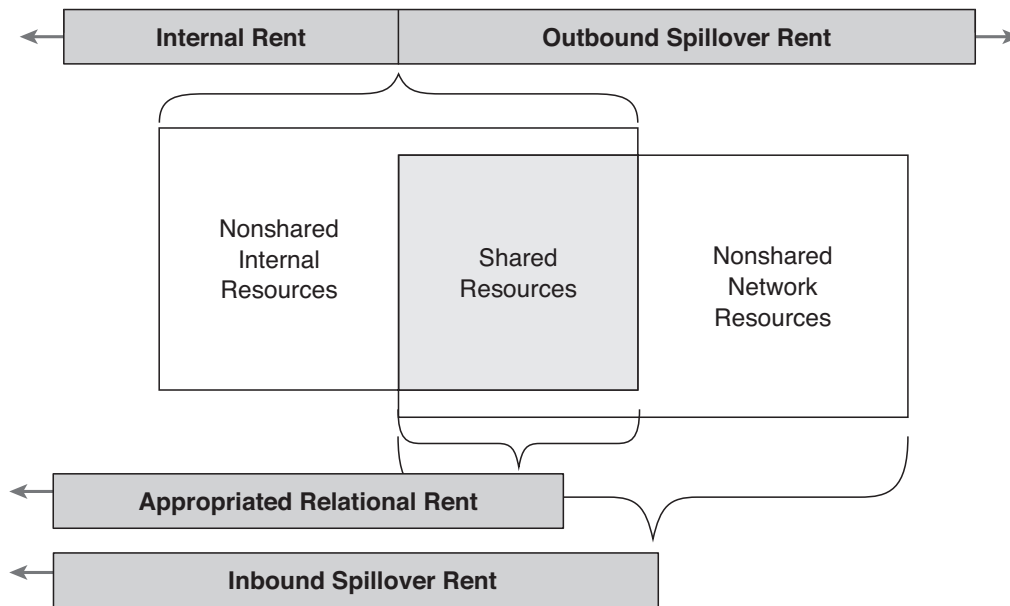


Figure 32.2 The Competitive Advantage of Interconnected Firms

corresponding to four different types of rent: (a) internal rent, (b) appropriated relational rent, (c) inbound spillover rent, and (d) outbound spillover rent. Figure 32.2 depicts the composition of rents that the interconnected firm extracts from the shared and nonshared network resources associated with its alliances.

Composition of Rents Extracted by the Focal Firm in an Alliance

Internal Rent

Internal rent refers to the combination of Ricardian rent and quasi-rent derived from the internal resources of the focal firm (Peteraf, 1993). Ricardian rents result from the scarcity of resources, which limits their supply in the short run, whereas quasi-rents encompass the added value that a firm can extract from its specialized resources relative to the value that other firms can extract from similar resources. The traditional resource-based view focuses on internal rents; however, when considering an interconnected firm, we need to incorporate not only the contribution of intrafirm resource complementarities but also that of interfirm resource complementarities. A firm can leverage the value of its own resources by accessing complementary resources of an alliance partner. For instance, the reputation of a start-up biotechnology firm may be enhanced when it forms alliances with prominent partners in the pharmaceutical industry. Unlike relational rents that rely on interfirm complementarities in creating common benefits to alliance partners, internal rents are private benefits enjoyed exclusively by the focal firm. Notably, alliances can produce not only positive synergies but also negative implications for the value of the focal firm's internal resources. In the former

example, the reputation of the pharmaceutical firm may be negatively influenced by the failure of its biotechnology partners' R&D efforts. Hence, the internal rent derived from a particular internal resource depends on all other internal resources as well as on the network resources embedded in the firm's alliance network, which produce positive or negative complementarities.

Appropriated Relational Rent

According to the relational view (Dyer & Singh, 1998), relational rent can be defined as a common benefit that accrues to alliance partners through combination, exchange, and codevelopment of idiosyncratic resources. This type of rent cannot be generated individually by either partner and is therefore overlooked by the traditional resource-based view. Relational rents are extracted from relation-specific assets, knowledge-sharing routines, complementary resources, and effective governance mechanisms. Relational rents emerge only from the resources that are intentionally committed and jointly possessed by the alliance partners, and thus involve the shared resources of the focal firm and its partner. The contribution of relational rents to alliance outcomes depends on the total value of these shared resources. Although the relational view does not specify the proportion of relational rents appropriated by each participant in an alliance, unless predetermined, ex post relational rents are rarely distributed equally between the partners.

Several factors determine the proportion of relational rents appropriated by the focal firm.

Relative absorptive capacity. Absorptive capacity refers to a firm's ability to identify, access, assimilate, and exploit external knowledge. Firms often enter alliances with the expectation of learning new knowledge and acquiring external

rent-generating resources. However, different firms possess distinctive learning capabilities that may account for the unequal distribution of rents in their alliances. Heterogeneity in absorptive capacities may be ascribed to idiosyncratic resource stocks, path dependencies, and heterogeneous communication channels. Prior studies have shown that a firm's absorptive capacity accounts for the actual learning from partners and eventually enhances performance (Lane, Salk, & Lyles, 2001). Therefore, the better the absorptive capacity of the focal firm relative to that of its partners, the higher the proportion of relational rents appropriated by the focal firm.

Relative scale and scope of resources. Relational rents accrue due to interfirm resource complementarities and, therefore, are greater for complementary alliances than they are for pooling alliances. The degree of overlap in shared resources of partners varies across alliances. Consider a hypothetical case where the shared resources of the focal firm are a subset of the shared resources of its partner. In this case, the resources that the focal firm can share are internally available to the partner regardless of the alliance. Thus, the partner's potential benefit from the jointly generated rent is limited relative to that of the focal firm. Similarly, the relative scale of alliance partners' resources affects the potential for appropriation. A larger resource set of the partner can provide greater benefits to the focal firm insofar as resources are idiosyncratic. In support of this relative scale argument, empirical studies have shown that small firms benefited more than their affluent established partners, even when controlling for firm age (Stuart, 2000). Thus, the smaller the scale and scope of the focal firm's shared resources relative to those of its partners, the higher the proportion of relational rents appropriated by that firm.

Contractual agreement. Most alliances involve the signing of formal contractual agreements at the time of alliance formation. These contracts provide formal safeguards and determine the distribution of common benefits *ex ante*. In particular, the payoff structure of a joint venture is often specified in accordance with the partners' stake in the joint venture. In general, a favorable contract agreement may provide the firm with exclusive access to network resources, may specify a relatively high share of returns on joint activities, may protect the firm's internal resources from misappropriation by defining the scope of shared resources, and may offer legal remedies that secure the firm's investments in the alliance.

Relative opportunistic behavior. According to Williamson (1975), contracts are incomplete and cannot specify all future developments. Under such conditions, informal safeguards and trust-building initiatives play an important role in deterring the potential opportunistic behavior of alliance partners. Still, after a contract is signed, opportunistic behavior can result in extraction of a disproportionate share of rents by the opportunistic party (Parkhe, 1993). Hence, the more opportunistic the firm relative to its alliance partner, the higher the proportion of relational rents appropri-

ated by the focal firm. However, the more opportunistic the firms participating in the alliance, the smaller the potential relational rents *ex ante*, since firms that recognize potential opportunistic behavior of partners tend to limit the scope of collaboration and knowledge transfer which are critical for the creation of relational rent. Thus, opportunistic behavior may temporarily increase a partner's share of relational rent but eventually reduce the overall relational rent produced by the alliance, lead to termination of that alliance, and reduce the likelihood of future alliance formation with the opportunistic partner.

Relative bargaining power. Bargaining power is defined as the ability to change the terms of agreements favorably, to obtain accommodations from partners, and to influence the outcomes of negotiations. It often depends on the relative stakes of the parties involved in the negotiation and the availability of alternatives. A partner who is less dependent on the outcomes of the alliance and has more alternative contacts relative to the focal firm enjoys a relative bargaining power. Firms rely on their bargaining power at the stage of alliance formation and contract formulation. Yet, due to the incompleteness of contracts and dynamics that affect the relative bargaining power of partners during the course of the alliance, relative bargaining power plays a continuous role in determining the potential for rent appropriation. For instance, Hamel (1991) argued that relative bargaining power complements relative learning skills in determining rent appropriation in alliances. Inkpen and Beamish (1997) demonstrated that alliance partners accumulate knowledge and skills that result in shifts in their relative bargaining power over time. Finally, Khanna, Gulati, and Nohria (1998) posited that an alliance partner's share of common benefits generated through an alliance depends on its relative bargaining power. Hence, the stronger the bargaining power of the focal firm relative to its alliance partners, the higher the proportion of relational rents appropriated by the firm.

Considering the combined effect of the relation-specific factors mentioned previously, we conclude that at the time of alliance formation the firm's share of relational rent is likely to be larger under favorable contractual agreements and when the relative scale and scope of its resources is smaller than that of its partners. In addition, the firm's expected share of relational rent is likely to increase when its partners' opportunistic behavior is attenuated and when it enjoys a stronger bargaining power relative to its alliance partners. After the alliance is formed, however, the firm's share of relational rent will be proportional to its relative absorptive capacity, relative opportunistic behavior, and relative bargaining power.

Inbound Spillover Rent

Inbound spillover rent is a form of private benefit that is exclusively derived from network resources because of unintended leakage of both shared and nonshared resources of the alliance partner. Spillover rents are usually associated with horizontal alliances among competitors that seek to

internalize the resources of their partners, and thus ultimately improve their competitive position vis-à-vis these partners (Hamel, 1991). When both the firm and its alliance partner pursue such objectives, the parties are said to engage in learning races; however, when only one party holds latent objectives such as targeting the core assets of its partner, it is said to be acting opportunistically. When a firm exploits the alliance for its private benefit outside the agreeable scope of the alliance, it enjoys an unintended spillover of resources with no synergetic value creation. For example, a firm may exploit a technology that was licensed from its partner for a purpose different from that originally intended to or leverage its alliance to access certain resources that were not assigned to the alliance by its partner.

In the case of inbound spillover rent, the competitive advantage of the focal firm depends on several factors. Firm-specific factors determine the capacity of the firm to extract rents from the shared resources of the partner in an involuntary way for unintended purposes. Both firm-specific and partner-specific factors determine the potential for appropriating spillover rents from the nonshared resources of the partner. Because alliances grant the firm access to the shared resources of partners, the leakage of resource benefits is difficult to prevent *ex ante* using contractual instruments. Coevolving trust and conflict resolution mechanisms can limit such leakage (Kale, Singh, & Perlmutter, 2000); however, the bulk of the appropriation potential hinges upon the good faith of the focal firm. Hence, firm-specific factors including the firm's opportunistic behavior, bargaining power, and absorptive capacity, affect its ability to accumulate spillover rents from the partner's shared resources. A superior absorptive capacity may help a firm internalize shared resources as well as identify and access nonshared resources. Its opportunistic behavior may lead to improper use of such resources while a superior bargaining position, in turn, may enable the firm to get away with these actions and, if detected, avoid retaliation by the offended partner.

When considering spillover rents accruing due to nonshared resources, we assume that alliances provide opportunities that range beyond their immediate scope. Hence, the appropriation factors that represent the focal firm's motivation and capacity to identify and exploit such opportunities are also applicable to the partner's nonshared resources. However, a partner acknowledging the risk of such unintended appropriation and its adverse consequences for its long-term competitive standing will invest in preventing resource leakage. Partners protect their nonshared resources by utilizing isolating mechanisms such as causal ambiguity, specialized assets, patents, trademarks, and other forms of legal and technical protection (Rumelt, 1984; Wernerfelt, 1984). These isolating mechanisms protect firms from imitation and secure their rent streams. Specifically, these isolating mechanisms prevent the outbound diffusion of rents by limiting the imitability, substitutability, and transferability of strategic resources (Barney, 1991). While the relational view (Dyer & Singh, 1998) acknowledges the role of isolating mechanisms that the firm and its alliance

partners jointly employ to protect their shared resources from the external environment, the partners can individually develop other isolating mechanisms to protect their nonshared resources from inbound spillover that benefits the focal firm. Therefore, the stronger the isolating mechanisms employed by its partners, the smaller the inbound spillover rent that the focal firm can extract from the nonshared resources of these partners.

Outbound Spillover Rent

Much as the resources of the alliance partners are subject to spillover rent appropriation, the resources of the focal firm are subject to unintended leakage that benefits its partners. Hence, a symmetric argument can be developed for the impact of outbound spillover rent, which diminishes the competitive advantage of the focal firm as previously discussed. Hence, the more salient the opportunistic behavior of partners and the stronger their bargaining power and absorptive capacity, the greater the firm's loss ascribed to outbound spillover rent. In turn, the stronger the isolating mechanisms employed by the firm, the smaller the loss associated with outbound spillover rent generated from its nonshared resources.

The overall impact of network resources on the interconnected firm's competitive advantage can be conceptualized as the combination of the four rent components, namely, internal rent, appropriated relational rent, inbound spillover rent, and outbound spillover rent. Thus, the competitive advantage of an interconnected firm based on the combination of internal resources and network resources is either greater or smaller than the competitive advantage of the same firm being evaluated only on the basis of its internal resources. Firm-specific, partner-specific, and relation-specific factors play a role in determining the type and magnitude of rents extracted from both the internal resources of the focal firm and the network resources of its alliance partners.

DISCUSSION

The proposed framework overcomes a limitation of the traditional resource-based view, which has focused on resources that are owned or internally controlled by a single firm. It incorporates the notion of network resources that play a role in shaping the competitive advantage of interconnected firms. The framework also extends prior research on joint value creation in dyadic alliances (e.g., Dyer & Singh, 1998) by considering unilateral accumulation of spillover rents that produce private benefits. It then suggests that the mechanisms of value creation differ for shared and nonshared resources, and that the value of internal resources is affected by complementarities that span firm boundaries. Overall, engagement in alliances can either benefit or impair a firm's quest for rents. By extending the resource-based view, this entry sheds light on the conditions under which interconnected firms can gain competitive advantage.

A comprehensive resource-based view of the interconnected firm can be further advanced by analyzing the conditions for sustainability of competitive advantage (Barney, 1991). For instance, causal ambiguity and social complexity may become insufficient for preventing imitation. According to the traditional resource-based view, the limited understanding of how resources contribute to firm performance (i.e., causal ambiguity) and the engagement of multiple actors and multifaceted organizational processes in the deployment and employment of resources (i.e., social complexity) prevents straightforward imitation of resources. However, partners can access resource benefits without obtaining the resources themselves and gain exposure to the path-dependent development of proprietary resources, which thus become less causally ambiguous and socially complex. Moreover, by engaging in proactive learning, partners can internalize the firm's resources. Consequently, inimitability is tied to the nature of alliance relationships more than to the nature of resources per se. While factors such as contractual safeguards, absorptive capacity, and opportunistic behavior determine the degree of imitation, interconnected firms generally experience greater erosion of rents due to imitation because of the higher level of resource exposure. In addition, imperfect substitutability becomes less relevant to sustainability of competitive advantage in networked environments because partners can gain access to desired resources through alliances, mitigating the need for their substitution. Hence, the capacity of interconnected firms to create and appropriate value depends less on traditional resource-based view conditions and more on the ability of firms to maintain valuable interaction with their partners.

The proposed framework has been developed from the perspective of a focal firm involved in a dyadic alliance but can be easily extended to the case of an interconnected firm embedded in a network structure of multiple simultaneous alliances. This ego-network perspective draws attention to bilateral aspects of the focal firm's relationships with each of its partners. For example, by examining the degree of similarity, or bilateral fit, between the resources of the firm and those of its partners, alliances can be classified as pooling or complementary alliances for which different value creation mechanisms apply. A tight bilateral fit may benefit the firm by enhancing its ability to understand, learn, and assimilate network resources, thus increasing its share of relational rent as well as the potential for inbound spillover rent. A loose bilateral fit may increase the overall relational rent produced by the firm and its partners due to greater complementarity and synergy in the combination of internal resources and network resources.

Firms with similar resources are often competitors occupying similar market positions, thus a related consideration would involve the emergence of bilateral competition between the firm and its partners. Under conditions of bilateral competition, partners strive to compete away the focal firm's rents. Bilateral competition modifies the

payoff structure of partners in alliances by increasing the ratio of their private benefits to common benefits (Khanna et al., 1998). Hence, it may lead to learning races between the firm and its partners, which can increase inbound and outbound spillover rents at the expense of jointly generated relational rent.

In addition to the implications of interactions between internal resources and network resources, one may consider the implications of interactions among network resources. In this regard, it is possible to distinguish a homogeneous network in which the resource sets of partners are similar from a heterogeneous network in which alliance partners own different resource sets. A homogeneous network is characterized by a tight multilateral fit that may enhance the capacity of the focal firm to appropriate rents based on accumulated experience with similar partners, more efficient governance mechanisms, and enhanced bargaining position derived from reduced dependence on each partner. In contrast, the rent-generating potential of a heterogeneous network (loose multilateral fit) rests in synergies enabled by complementary resources, reduced technological risk, increased growth potential, and greater opportunities for innovation. In the same vein, one may consider the level of multilateral competition that describes the degree of competition among partners in the firm's alliance network. Alliance partners who join the firm's network would often act to preempt their competitors and lock them out of the network in order to secure superior access to resources. In addition, the focal firm would extend its alliance network only to the extent that new partners offer added value or synergies. Hence, the focal firm's capacity to appropriate rent from network resources may depend on the structure of its network. Further research is needed in order to explore the performance implications of bilateral and multilateral fit as well as bilateral and multilateral competition. These aspects have received limited attention in prior research.

Future research may extend the proposed framework in several ways. First, it may evaluate the impact of network structure (e.g., the density of ties in the firm's ego-network) relative to relational aspects such as trust building, knowledge sharing, bargaining power, and learning. Second, it may acknowledge the fact that different appropriation processes require dissimilar spans of time. For instance, the benefits of complementarities that enhance the value of internal resources may be available at the outset of the alliance, but relational rents are accumulated gradually as a result of continuous collaboration. The benefits associated with spillover rents may consume even more time because firms need to bypass their partners' isolating mechanisms. Third, future research may be able to consider not only the impact of direct ties but also the influence of indirect ties. For example, a firm may seek to ally with a certain partner in order to indirectly access the resources possessed by that partner's partners. From the perspective advocated in this entry, resource-based rents are transferable to some extent; thus, firms may be able to access network resources through

intermediaries. Finally, the proposed framework should be empirically corroborated to further advance understanding of the value of network resources.

CONCLUSION

At the turn of the 21st century, alliances have emerged as a primary vehicle for conducting economic transactions. Once conceived of as independent entities, firms are now considered interconnected in the sense that they engage in multiple alliances with counterpart firms. This phenomenon necessitates a new theory of the firm that incorporates simultaneous competition and collaboration as drivers of value creation and appropriation. In particular, the traditional resource-based view has advocated isolation of strategic assets whereas the alliance literature has promoted sharing of such resources. This entry bridges the conceptual gap between these perspectives by distinguishing shared resources from nonshared resources in alliances and by specifying the various types of rents that firms can extract from their multiple alliances. The implications of this framework are far reaching. Managers need to pay attention not only to the value of resources nurtured by their own firms but also to the resources possessed by their firms' partners. They must evaluate the value of network resources as well as the value of potential combinations of network resources and internal resources. They must collaborate to create value and compete to appropriate their relative share of that value. They must look beyond the immediate scope of alliances and seek to leverage network resources while finding the right balance between resource sharing and the protection of proprietary assets. In conclusion, management in the 21st century has become more challenging and complex yet offers greater prospects to those willing and capable of exploring the nature of interconnected firms.

NOTE

1. In this entry, the term *rent* refers to the economic return that a firm can derive from resources.

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NEW PRODUCT AND SERVICE DEVELOPMENT IN STRATEGIC ALLIANCES

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More and more companies are turning to strategic alliances for their new product and service development projects. The number of new research and development (R&D) relationships created each year increased around 50 times from 1960 to 1998 (Hagedoorn, 2002). Participating in development alliances yields many benefits for a company including increasing its innovation rate (Stuart, 2000) and facilitating its initial public stock offering (Powell, Koput, & Smith-Doerr, 1996). At the same time, these alliances have complex managerial problems such as controlling the leakage of technical knowledge, valuing the partner's contributions of technical knowledge, and coordinating joint activities.

Scope of the Study

Most research has dealt with bilateral development alliances or those between two organizations. Through an analysis of the various costs and benefits, the next section discusses when a company should opt for development with a partner versus going it alone. In addition to considering tangible factors, it is necessary to weigh contracting and coordination costs versus learning and flexibility benefits. The third section examines the design of a bilateral development alliance, including whether or not the partners should form a company that they would jointly own, the appropriate scope of the alliance's activities, and the uses of alliance experience. This section also looks into supplier involvement in development in terms of the extent of participation and the quality of the relationship between customer and

supplier. The fourth section, which covers development when more than two companies work together, examines the special problems, opportunities, and organization of this complex arrangement. The section also looks at how a company's network of alliances influences—and in turn, is influenced by—the company's development alliances. Finally, this section examines the mutual relationship between a company's development alliances and its position in the industry's network of alliances.¹

Research projects, which are not examined here, aim at the general advancement of knowledge by discovering new technologies, while development projects, the subject of this chapter, use specific technologies to come up with new products or services. For example, pharmaceutical biotechnology, manipulating the genetic structure of cells to have them create specific therapeutic proteins, is a technology used to develop a specific new product such as insulin. In practice, however, distinguishing between research and development is not always simple, which is perhaps the reason that the two terms are sometimes used interchangeably.

Development is a process that usually starts with knowledge of technological or market opportunities. Strategic choices defining what is to be developed are made in the upstream phase of the process, while the downstream phase, which absorbs the bulk of committed resources, involves detailed design and testing. The process ends with a new product, service, or some combination, ready for full-scale operations and marketing. It may be used as part of a higher-level system such as an aircraft, it may be sold to customers, or it may serve both purposes.

Without forgetting the importance of resources such as skills, finances, and equipment, the development process essentially transforms existing knowledge resources into new knowledge. Some of this knowledge is tangible, such as design documents, but other aspects are tacit, meaning hard to articulate and write down. At each step of the process, participants receive information from previous steps and, using their own and the organization's knowledge (the latter based in information technology and standard operating procedures), create new information that is passed on to succeeding steps. Knowledge creation also occurs when steps have to be redone. Ultimately, the new knowledge resources reside in the product or service, the participants, and the organization.

A development alliance is a collaborative effort—based on a legally enforceable agreement—between two or more independent organizations that contribute resources for the purpose of commercializing a product or service. Most research concentrates on bilateral relationships between business firms. The two companies may decide to share profits and decision making. On the other hand, one company may reap all of the profits and have the final say, while the partner company obtains a fee for its contributions and has some influence in decisions. For a product, the partners usually involve their design, manufacturing, and marketing departments, while for a service, the relevant departments might be technology, operations, and marketing.

Some development alliances also may involve other tasks, such as full-scale operations and marketing. In one approach, the partners share each of the tasks, while in another approach, one company is responsible for development and the other for operations and marketing. In the latter approach, development is still a joint effort as long as the firm in charge of development needs interaction with the partner to accomplish its task.

There are two main types of development alliances. Contractual arrangements depend solely on written agreements and verbal understandings. Equity relationships involve, as well as contracts, an operating entity in which the partners have a controlling stock investment. The operating entity might be a new joint venture organization formed by the partners, or it might be one of the partner organizations in which the other partner has taken a minority interest. A licensing arrangement, which involves the transfer of previously developed products or services from one firm to another, is not a development alliance.

Another way of classifying development alliances is by business relationships. Sometimes the partners are in a vertical alliance between a customer and a supplier. A bank and a telecommunications network provider might collaborate on providing Internet financial services for the bank's customers. Other times, the partners are in a horizontal alliance between competitors. Two manufacturers of telecommunications equipment might work together to develop a new switch.

Characteristics of Development Alliances

Hagedoorn (2002) reported on aggregate instances of new research, development, and licensing alliances on a yearly basis for 1960 through 1998. No comparable data exists just for development alliances. First, there has been a clear pattern of growth, in terms of number of alliances, over the period. Second, companies have increasingly preferred contractual relationships to joint ventures. Third, high tech's (mainly pharmaceuticals, computers, telecommunications, and semiconductors) share of these relationships has steadily increased; by 1998, it was 80%. Fourth, international arrangements between partners from different countries, which tend to concentrate in medium-tech industries such as automotive, consumer electronics, and chemicals, have exhibited a somewhat irregular and slightly downward trend. Fifth, nearly one third of all of the relationships initiated since 1960 have occurred in North America (overwhelmingly in the United States), while another 36% have transpired between North America and other regions.

CHOOSING A DEVELOPMENT ALLIANCE

If a company intends to develop a new product or service, there are two main alternatives: (a) going it alone or (b) entering an alliance.² For all of the different components of a large, complex system such as an aircraft or auto, the company may utilize both of these alternatives, as well as nondevelopmental alternatives including open market purchases, licensing, and acquisition of another firm that has already developed a component. One way to analyze the two basic alternatives is to examine their costs and benefits of developing the exact same offering. This type of analysis assumes that a company is attractive enough to have willing partners and that there is at least one attractive partner among them. An attractive firm typically has resources that other companies want, such as innovative technologies or operations and marketing capabilities.

There are at least two other issues to keep in mind. First, while the cost-benefit analysis presented here concentrates on just the alliance alternative, going it alone may involve some of the same kinds of costs and benefits, which also must be considered in making a choice. Second, when a company already has an existing set of alliances, any decision on whether or not to enter a new development alliance is not completely independent of these past choices (Gulati, 1998). The sub sections "Leveraging Alliance Experience" and "Networks of Alliances" explain some of these connections.

Tangible Costs and Benefits

If a company works alone, it will have the new offering's entire future revenue stream, but the tangible cost stream

might reflect a need to acquire development resources. In an alliance, the company only receives a share of the potential revenue stream, although a larger market may exist if the company, say, has a strong presence in North America and the partner in Europe. The company's tangible cost stream would be influenced by the level of the partner's technical capabilities and would not have to include acquisitions of any needed resources that the partner already had.

An alliance makes sense (the present value of the company's net returns tend to be higher) when the resources needing to be acquired are expensive and the partner already has them (Shan, 1990). Allying is even more likely if, in addition, it takes a long time to get the resources up to speed or if the new offering will have a short life span. Biotechnology start-ups, for example, want access to the costly manufacturing and marketing resources possessed by pharmaceutical firms in an industry where being first to market is crucial. A telecommunications firm planning to develop a new customized mobile phone chip destined to last just a few years will want to use costly manufacturing capabilities available from a semiconductor firm. These arguments, however, do not consider significant intangibles such as the costs of contracting and coordination, and the benefits of learning and flexibility.

Contracting Costs

Contracting (*explicit transaction*) costs are the direct and indirect expenses of negotiating, monitoring, and enforcing the written agreements that protect a company from being taken advantage of by its partner (*opportunism*).³ We can add the costs of finding a suitable partner and the lost sales revenue from missing the project's market window due to disputes between the partners over issues lying on the critical path.

According to Williamson (1985), contracting costs should increase with the degree of specialization of the resources used in development (*asset specificity*). When a company's specialized technology has little use outside of the current alliance, or when the company has few alternatives outside of the alliance to using its partner's specialized technology, the partner's bargaining power on contractual issues grows, making it harder for the company to reach a satisfactory agreement. To illustrate, by building a learning curve advantage over its competitors through specialized technical knowledge gained during prior joint development efforts with a company, a supplier can then seek more profits and decision-making control in the negotiations for the current development effort (Monteverde & Teece, 1982). Thus, due to these contracting costs, a firm's willingness to enter an alliance decreases as development involves more specialized resources.

Another factor, the level of technological uncertainty, refers to the likelihood of unexpected events occurring in the future concerning a technology's characteristics and conse-

quences, including whether it eventually becomes obsolete. This type of uncertainty helps to augment contracting costs by triggering numerous occasions for having to renegotiate the written agreements. If, for example, a company's technology turns out to be less cost effective than anticipated, the partner may want to revise the contract. Just for a development alliance, however, technological uncertainty is also associated with offsetting flexibility benefits, to be discussed later.

Contracts are an expensive way to protect firms from two important problems of development alliances arising from specialized technology and technological uncertainty. First, opportunities exist for confidential knowledge about a company's technology to leak to the partner. The partner may then develop its own competing products or inform the company's competitors. This leakage hampers the company from obtaining enough financial returns to make its investment in the technology worthwhile (reduces *appropriability*). Second—initially, at least—a company may be at a disadvantage in knowing about the partner's technology (*information asymmetry* or *impactedness*). The partner may use this situation to misrepresent the technology's worth (*adverse selection*).

Coordination Costs

In a development alliance, coordination must occur both within and between the partner organizations. It takes place largely through informal working level communication using the exchange of design, operations, and marketing information. The costs of this coordination are the day-to-day expenses of reaching mainly verbal agreements that achieve unity of effort among the participants in the development project (*organization costs* or *implicit transaction costs*). These costs are salient when one party takes advantage of superior bargaining power by, say, delaying its share of the work to gain concessions, and when the partners interpret and react differently to the same information (Gulati, Lawrence, & Puranam, 2005).

Coordination costs in a development alliance increase with coordination needs and decrease with coordination ability and willingness (Gerwin, 2004). The need to coordinate goes up with technological interdependence, the extent to which the work in one development activity affects the work in another. Technological uncertainty also raises needs because an unexpected event typically requires an integrated effort to deal with it.

Especially when time pressures exist, the ability to coordinate in an alliance suffers from the lack of a completely unitary chain of command. At least at the uppermost hierarchical levels, representatives of both companies usually make joint decisions. Willingness to coordinate varies inversely with concerns about knowledge leakage; the greater this concern is, the less a company wants to communicate with its partner. In spite of these problems, there are certain

situations in which the coordination costs of joint development can be smaller than costs are when a company develops something on its own.

Learning Benefits

In a development alliance, a company learns not only technical knowledge about developing products and services, but also managerial knowledge about how to choose partners and participate in alliances. This learning occurs through contacts with the partner and by gaining experience in performing alliance activities (*learning by doing*).

Within the alliance, learning helps enlarge the profit pie. At the same time, by obtaining knowledge for which it was previously dependent on the partner, a company can increase its own bargaining power and thereby take a bigger slice of the pie. This opportunity to redistribute profits may create a “race to learn” everything that is useful from the other party and then exit the alliance (Hamel, 1991). There are also benefits for a company outside of the alliance if the company can transfer the learning to development projects undertaken on its own or with other partners.

A number of factors determine how much a company learns from the partner (Hamel, 1991). First, there must be some motivation such as a desire to fill knowledge gaps. Not every alliance, however, offers a suitable match between a company’s gaps and what the partner does best. When a financial institution and a telecom provider collaborate to provide Internet financial services, they may not have much interest in moving into each other’s business. Assuming a match does exist, the company must transmit its intent to learn to those of its employees who are in good positions to absorb knowledge from the partner.

Second, there is the partner’s willingness and ability to transfer knowledge. Willingness depends on the partner’s relative speed of innovation. A partner that innovates very rapidly, as compared to its ally, can afford to disseminate information about its recent technological advances. By the time the collaborator has utilized the information, the partner will have jumped another step ahead. Ability decreases to the extent that knowledge is tacit. Transferring tacit knowledge requires costly personal contact and experiential approaches such as working together in a joint team.

Third, a company must have absorptive capacity, an ability to recognize, incorporate, and utilize the partner’s knowledge (Cohen & Levinthal, 1990). This ability may be helpful only up to a certain point, because as the two companies’ existing basic knowledge becomes more similar, the less there is to learn from each other. Creating absorptive capacity is not an easy task. Suppose a company learns from its partner about the benefits of using heavyweight project managers for development projects. These are individuals with superior expertise and influence, yet their expertise takes a long time to evolve, and their influence depends upon the balance of power between the company’s technical managers and project managers (Takeishi, 2001).

Flexibility Benefits

When biotechnology start-ups entered the pharmaceutical industry, they had radically new technologies that incumbent pharmaceutical firms knew little about. Although the new technologies threatened to make an incumbent’s traditional chemical approach obsolete, the technologies had unproven market potential. A typical incumbent could have tried to compete with the start-ups by acquiring one of them and then developing products by itself. Instead, many adopted a transitional approach to acquisition by forming alliances with start-ups.

When alliances act as transitions, they have flexibility benefits in terms of various options for dealing with technological uncertainty (Folta, 1998). They offer a company—at less cost and risk—the possibilities of eventually acquiring the partner’s technology if it turns out to be a success, continuing the arrangement if the uncertainty persists, or ending the arrangement if the technology eventually does not live up to its promise. This approach reduces the company’s losses when the technology does not work out, but allows it to take full advantage of the technology’s success. In addition, by having the time to learn more about the technology, a company can block any attempts by the partner to misrepresent the technology’s value, make a more informed acquisition decision, and more smoothly incorporate the acquisition into its operations. It is easy to see why—at one time—Nortel had alliances with firms representing each of the three main competing mobile phone alternatives.

All of these flexibility and learning benefits may outweigh the high contracting costs associated with specialized technology and technological uncertainty. In fact, due to these benefits, a company seeking new technology may prefer a transitional alliance even when technological uncertainty is high (Folta, 1998). On the other hand, an alliance does not protect a company as well as an acquisition does from a switch by the partner with the technology to working with another company. As a result, having a lot of competitors discourages a company from entering a transitional equity alliance (Folta, 1998). The company must also have resources—in operations and marketing, for example—to entice the partner into an alliance.

DESIGNING A DEVELOPMENT ALLIANCE

Managers can increase the benefits and reduce the costs of a development alliance by properly designing it. If both partners—instead of just one partner—invest in specialized resources, each is unlikely to take advantage of the other due to their mutual dependence. A good illustration of mutual dependence occurs in the joint development of custom integrated circuits. Suppliers need their customers’ plans for new end products to guide the development of future process technologies, and customers require knowledge

of suppliers' future process technologies to plan their new end products. Each party protects the other's knowledge to encourage similar treatment.

Equity Alliances and Alliance Scope

Equity alliances have better features than contractual relationships for limiting contracting and coordinating costs. A company will be less likely to take advantage of its partner in order not to jeopardize its up-front financial investment and because the organizational structure provides some help in resolving disputes. To illustrate, the partners can sidestep the issue of which one owns technical knowledge created during the alliance, because the knowledge will belong to the joint venture (Gulati, 1995). It is also easier for a company to monitor the partner's actions when they jointly own a single organization than it is when the company has a contract with a separate partner organization (Kogut, 1988). With the exception of the highest levels, the chain of command in a joint venture typically is more unitary than it is in a contractual alliance. Accordingly, there is less opportunity for time-wasting disputes.

Due to their specialized resources, technological uncertainty, technological interdependence, and potential for knowledge leakage, development alliances tend to have larger contracting and coordination costs than other types of alliances have. When an alliance includes development combined with full-scale operations and marketing, there tends to be even more of these costs. Alliances in which development is at least one of the tasks are therefore more likely to be equity based than contractual (e.g., Gulati, 1995). The downside is that due to the existence of an operating organization, equity alliances are more costly to initiate and to terminate, and have greater administrative costs, than contractual relationships.

Equity alliances are also better vehicles than contractual arrangements are for learning from the partner. Tacit knowledge transfer benefits from the greater face-to-face contact in the single organization of an equity arrangement. Simultaneously, it suffers from having to cross the organizational boundaries of a contractual alliance because this knowledge is difficult to separate from the rest of an organization (Kogut, 1988). On the other hand, for the same reasons that they facilitate learning from the partner, equity alliances should also exhibit a greater tendency for the leakage of tacit knowledge.

Another way to limit joint development's contracting and coordinating costs is to restrict an alliance's scope (Oxley & Sampson, 2004). Managers can reduce the amount of contracting and coordinating problems by narrowing the range of tasks to, say, just development as opposed to development, operations, and marketing. Restricting scope also seems to do a good job of limiting knowledge leakage. In fact, the closer partners are to be-

ing competitors—and thus, the more they are concerned about leakage—the more likely it is that their alliance involves just development as opposed to development and other tasks. Limiting scope and using an equity alliance seem to be substitute design alternatives. There is evidence that when scope is narrow, there is less need to use a joint venture, and that use of a joint venture broadens an alliance's scope.

Leveraging Alliance Experience

A firm's alliance experience, based on the number of its prior alliances, influences the costs and benefits of a current development alliance in at least three different ways (see Table 33.1). First, technical experience augments current technical learning and flexibility benefits (although it may also increase contracting costs by providing a bargaining advantage). Second, managerial experience about how to effectively choose partners and collaborate with them reduces current contracting and coordination costs, and improves current learning opportunities.

Third, trust—one party's confidence in the good behavior of the other party—may have developed between the current partners as the result of repeated prior contacts. Gulati (1995) distinguished between knowledge-based trust, which is based on social norms such as equity and reciprocity, and deterrence-based trust, which is derived from calculations that taking advantage of the partner will lead to penalties such as loss of reputation or repeat business. Mutual trust reduces all the costs and increases all the benefits, yet a company with bargaining power may be tempted to take advantage of its partner when the partner trusts the company. Being trustful should be backed up by some countervailing power as well.

A company's levels of technical experience, managerial experience, and trust depend upon the type of prior alliances in which it has participated. In the upper left cell of Table 33.1, prior development alliances with the current partner—such as a long-term relationship between a customer and a supplier—foster all three experience-based characteristics in the most meaningful ways. The buildup of managerial learning and trust, for example, represents an investment by both companies in intangible, specialized resources that help create mutual dependence.

Table 33.1 Effects of Alliance Experience

	<i>Previously Allied With Current Partner</i>	<i>Previously Allied With Other Partners</i>
Prior Development Alliances	Technical Learning Managerial Learning Trust	Technical Learning Managerial Learning
Prior Nondevelopment Alliances	Managerial Learning Trust	Managerial Learning

In the upper right cell, prior development alliances with firms other than the current partner supply somewhat less relevant technical learning and managerial learning, as well as hardly any trust. Nondevelopment alliances with the current partner (the lower left cell) contribute somewhat less useful managerial learning and trust than the upper left cell can because they involve other business functions and individuals from the two companies. These alliances should also provide little, if any, technical knowledge useful for development. Finally, nondevelopment alliances with companies other than the current partner (the lower right cell) have somewhat less beneficial managerial learning to offer than those in the upper left cell do, and they offer virtually no technical knowledge and trust.

Supplier Involvement in Development

Vertical alliance design has been influenced by the aims of long-term customer-supplier relations in the Japanese auto industry (Bensaou & Venkatraman, 1995). A typical auto contains 30,000 components, with suppliers accounting for as much as 70% of manufacturing costs and 50% of development costs. Consequently, the way in which an auto company works with its component suppliers has an important influence on its competitiveness (Takeishi, 2001).

In the Japanese approach, both customer and supplier make specialized investments in equipment and knowledge. Their collaborative activities include supplier involvement in the development process from the early stages. In “black box” development, for example, the customer provides general product requirements and then monitors the supplier, which is responsible for the rest of the work. Extensive knowledge exchange occurs through a customer development team that includes representatives of the supplier and uses the latest information technology.

We can look at supplier involvement as occurring during the development of an entire product that has a number of components or during the development of one of these components. Either way, supplier involvement refers to both the extent of the supplier’s participation, in terms of how much of the development work it does, and the quality of the relationship with the customer, in terms of the supplier’s influence in decision making (Primo & Amundson, 2002).

Supplier involvement has some important effects on the performance of a development project. Increasing the extent of supplier involvement in developing auto components (in combination with using more “off-the-shelf” parts) leads to a performance trade-off for an entire new car project. There is lower development time and cost, but also lower product quality (Clark & Fujimoto, 1991). To the extent that lower quality is due to suppliers’ inadequate proficiency, customers should work closely with them and invest in improving their capabilities. A high-quality relationship, on the other hand, improves the product’s quality and notably reduces the negative effect of the extent of involvement on product quality (Swink, 1999).

Factors Determining Supplier Involvement

In spite of the risks, both customer and supplier must want to participate in joint development. Suppliers risk dependence on the customer, technical knowledge leakage, and higher fixed costs. A need for economies of scale conflicts with the uncertainties and low volumes associated with development (Helper, 1996). Customers risk lower product quality, dependence on the supplier, knowledge leakage, and delays that might imperil meeting the target date for releasing the new product or service.

Customers also risk deterioration of their technical knowledge about a component. This increases the difficulty in understanding the technological interdependencies between the component and other components and in evaluating the component when the supplier uses new technology (Takeishi, 2001). Maintaining technical knowledge is also necessary to build trust with the supplier, to avoid the supplier’s gaining more bargaining power, and to perform development alone in the future, if necessary.

Not surprisingly, the extent of supplier involvement in a component’s development increases when the supplier can protect its design knowledge from leakage and when customers use incentives such as technical assistance and promises of future business (Helper, 1996). Novelty is another consideration. If both a mobile phone network and a new service component such as games or ring tones have novel features, developing the service requires a great deal of interaction with the network. Then, the network operator can best accomplish the development on its own without a service supplier’s help. If both the network and the new service have familiar features, the supplier can readily develop the service on its own. A degree of supplier participation with the network operator is appropriate when the network is novel and the service is familiar or vice versa (van den Ende, Jaspers, & Gerwin, 2006).

Supplier involvement in a component’s development, in terms of the quality of the relationship, depends on effective internal customer coordination (Takeishi, 2001). Otherwise, the supplier may, for example, receive conflicting signals from different departments in the customer organization. When a customer uses heavyweight project managers and engineers that rotate from the design of one component to another, it has better internal coordination. The relationship’s quality also improves with a number of other factors including the supplier’s dependency on the customer for sales.

MULTILATERAL ALLIANCES AND NETWORKS OF ALLIANCES

Multilateral development alliances have more than two partners.⁴ These arrangements, which may include suppliers, customers, and potential competitors, can have vertical and horizontal dimensions simultaneously. They often occur

where the knowledge needed for development bridges different industries. As one example, the first personal digital assistants were brought to market almost exclusively by multilateral alliances because development required knowledge of computer hardware and software, telecommunications, and consumer electronics (Gomes-Casseres, 1996).

Multilateral Alliance Basics

A system is a complex product or service containing a hierarchy of subsystems. New automobiles, for example, have major subsystems such as the body, engine, and transmission. Each major subsystem also contains subsystems; the engine includes the cylinder block and cylinder head, among others. Some of these subsystems, in turn, may involve minor subsystems which, in their turn, consist of individual parts. When the subsystems depend on very different technologies, it may be necessary for a number of firms from different industries to engage in joint development.

The system architecture, determined in the upstream phase of development, identifies the major subsystems and the technological interdependencies between them. Subsequent detailed development of each subsystem occurs within this framework. With a modular architecture, detailed development of the subsystems can proceed more or less independently because there are limited interdependencies between them. In an integral architecture, however, there are extensive interdependencies that lead to considerable information sharing among subsystem developers, often involving tacit knowledge.

Trade-offs frequently exist when choosing between a modular and an integral architecture, so that developers usually fix a system's architecture somewhere between these two extremes (Ulrich & Eppinger, 2003). A more modular approach facilitates high subsystem performance, improvement of a subsystem without affecting the rest of the system, and use of the same subsystem in different systems, while a less modular approach offers high overall system performance. A Formula One race car has less modularity than a subcompact passenger car does.

Multilateral alliances often compete against each other or against individual firms on the basis of different architectures for the same system. The introduction of reduced instruction-set computing (RISC) workstations pitted multilateral alliances led by Sun, Mips, IBM, and other firms against each other (Gomes-Casseres, 1996). A particular architecture becomes the industry standard when most or all of the companies agree to follow it. Thus, another reason for a multilateral alliance is to include firms having enough customers and complementary offerings for the rest of the industry to accept its architecture.

Building a customer base is particularly important when purchases of a system by new customers increase the value to an existing customer (*direct network externalities*). The more new customers there are for Skype's Internet phone calls, the more use existing customers can make of the ser-

vice. Not charging for SkypeIn phone calls helps expand the customer base. Insuring a wide range of complementary offerings is critical when they increase the value of a system to customers (*indirect network externalities*). For example, if more movie studios adopt the Blu-ray optical disc format for their DVDs, as opposed to HD-DVD, the accompanying DVD players will become more attractive to customers.

Organizational Issues

There are two alternative theoretical structural models for a multilateral alliance (Gomes-Casseres, 1996). At one extreme, a centralized structure exists in which a firm, usually a system company, determines the architecture, perhaps using information from other organizations, and then plays the central role in coordinating subsystem suppliers or customers. Typically, the company has a bilateral alliance with each of its allies and it develops a number of key subsystems itself in order to reduce the number of collaborators. These allies have just a limited number of alliances among themselves. The development of a new car model often has important aspects of this approach.

At the other extreme, in a decentralized structure, a number of subsystem firms jointly determine the system architecture, perhaps using information from other organizations, and then may ally with more firms. Here, a firm's bargaining power—connected to the importance of the resources it brings to the alliance—permits it to influence the formulation of the architecture. Each firm more or less develops one subsystem, so that there are almost as many companies as subsystems. The member firms adhere to a common overall agreement administered by a separate managing body funded and staffed by the members (*a consortium*). The architecture of the World Wide Web is the responsibility of the World Wide Web Consortium (W3C) representing over 400 governmental and private organizations.

In practice, a multilateral alliance's structure depends on its system's degree of modularity. The structure lies in a range between the decentralized end for a highly modular system and the centralized end for a slightly modular system. As modularity decreases, the managing body gives way to a web of bilateral alliances that spring up where technological interdependencies become strong. Each company will have an alliance with at least one of the others, and a small number of companies will be in locally central positions. As modularity decreases further, one company gravitates to the center as it gains bargaining power by internalizing key subsystems with particularly strong interdependencies. This shift from decentralization to centralization is due to mounting contracting and coordination costs as technological interdependence increases (Chesbrough & Teece, 1996).

Coordination becomes a particularly important issue as the number of firms and technological interdependencies increase. It is even more of a problem when a company not only provides a subsystem in a multilateral alliance

developing a system, but also is the center of a multilateral alliance developing components of its own subsystem. The company must then act as a linking pin between the two alliances, particularly if the technical knowledge for its subsystem is rapidly changing.

Computer-integrated information technology is often used to try to reduce coordination problems. Argyres (1999), in studying the development of the B-2 Stealth bomber by four defense contractors, found that the information technology's highly standardized rules for preparing and transmitting information reduced the central firm's coordination needs. For example, it facilitated a more modular design of the aircraft sections entrusted to different companies. On the other hand, there were problems in selecting a common information technology because the companies had previously invested in their own different approaches. Similarly, adopting a common new product development process facilitates coordination, but achieving agreement on the steps in the process is not always easy.

Problems and Opportunities

A more centralized structure is well suited for improving the overall performance of a system with relatively low modularity. One central firm can readily coordinate changes to the rest of the system due to an improvement in a subsystem and can readily align all the subsystems into an integrated whole. The performance of RISC workstations from the group led by Hewlett-Packard benefited from a relatively centralized approach. This company, by developing and manufacturing chips and workstations in-house, achieved high alignment between them. The relatively decentralized group led by Sun relied more for chip development on allied semiconductor firms that had other customers' needs to also bear in mind. The Sun group, with less alignment between chips and workstations, had a lower performing product (Gomes-Casseres, 1996).

A more decentralized structure does an excellent job of maintaining high subsystem performance in a relatively modular system. The subsystem firms can do development work more or less in parallel and independently. Specialization by each company in a particular subsystem, as well as competition among companies developing the same subsystem, facilitates the improvements. Having to conform to the existing architecture, however, sets limits on subsystem performance improvement.

The central firm or managing body must attend to a number of problems (Dhanaraj & Parkhe, 2006; Hwang & Burgers, 1997). First, a company may withhold high quality individuals and knowledge from the joint effort and still gain all the benefits (*free riding*). Second, overseeing the transfer of knowledge is critical so that the knowledge gets to where it is needed without leaking to nonalliance organizations. Third, there needs to be some control over the firms entering and exiting the alliance. If, for example, different companies insist that their architecture be adopted, the alli-

ance may break apart. This happened to the ACE alliance, which wanted to establish a RISC architecture in personal computers. Another example is an alliance formed to defeat a common enemy that may not hold together if the threat disappears. The COSE group of UNIX firms, formed to compete against Windows NT, had trouble cooperating after the latter's threat turned out to be overblown.

A multilateral alliance with a high percentage of competitors, versus suppliers or customers, also poses problems (Rindfleisch & Moorman, 2001). As this percentage increases, the degree of close relationships decreases and the extent of overlapping knowledge increases, both of which reduce technical learning. The overlapping knowledge, however, does provide a base of common understanding that leads to creative new products and fast development times. On the other hand, as the percentage of suppliers or customers increase, closer relationships and more distinct knowledge bases augment technical learning. The closer relationships also stimulate creative new products and fast development times.

Networks of Alliances

A company's network of alliances typically includes all of those in which it participates, regardless of their objectives and tasks. Viewing a development alliance as embedded in this network offers some useful insights (Gulati, 1998; Powell et al., 1996). First, the company's internal and joint development projects are complementary. A firm's value as a partner depends on its internal development resources, and collaboration further enhances these resources.

Second, a company should manage its development alliances in an integrated manner rather than as separate endeavors. There is a need for example to transfer learning across the alliances. In another example, having too many development alliances can overextend a company's limited resources (Doz & Hamel, 1998). To mitigate this problem, the company should try to create synergies by sticking to related applications (*economies of scope*). Concurrently, it is useful to extend the alliances across different industries to reduce conflicts among partners that compete with each other.

Third, any new development alliance that a company enters is significantly influenced by the company's existing network. The network reduces potential contracting and coordination costs for the new endeavor because the company can choose a partner from among firms that it already trusts or can obtain information from them about partners it is considering. This, in turn, may allow the new alliance's designers to avoid an equity arrangement in favor of a less costly contractual relationship. The existing network also contributes to a company's technical experience, managerial experience, and trust, factors that should positively influence the new alliance's performance.

Finally, while a company's existing network influences a new development alliance, its existing development alliances

are the driving force in evolving the network. Having a large number of existing development alliances is a prerequisite for later having a large number of new nondevelopment alliances, such as in operations and marketing. Apparently, the network evolves by exploiting the new product and services created by development alliances.

An industry's network of alliances includes all the different types of alliances entered into by its companies. There is a mutual relationship between a company's development alliances and its position in this network (Powell et al., 1996). First, the more existing development alliances that a company has, the more central it subsequently becomes in the network; in other words, it will have alliances with a larger number of other firms in the industry. This is because having existing development alliances leads to ideas for more joint development and to opportunities for other types of alliances that exploit the new products or services.

Second, the greater is a company's centrality in the industry network, in terms of its greater access to other firms, the more development alliances it subsequently has. A central firm is in a better position to absorb the diverse technical knowledge needed for successful future development. Central firms are also likely to have more alliance experience and better reputations. Thus, there is a virtuous cycle in which development alliances lead to a company having a more central role in an industry's alliances, which, in turn, stimulates more development alliances for the company.

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NOTES

1. It was easy to identify empirical studies for this chapter when their samples contained at least a majority of development alliances, or to eliminate them when their samples contained no more than a minority. Other investigations, however, included an unspecified percentage of development alliances, did not indicate whether the alliances sampled involved development, or did not make it clear whether the arrangements sampled were in fact alliances. To decide on these studies, the author had to rely on his judgment based on other information in the articles.

2. A new alternative is for a company to use some variation of the open source approach that originated in software development. This approach does not typically make use of alliances, but it does depend on licensing.

3. The terms in parentheses are examples of the specialized jargon used in relevant research articles. Although they do not appear elsewhere in the chapter, it is useful to acquaint the reader with them.

4. There is no agreed upon terminology for identifying a multi-lateral alliance. Various terms, such as *network*, *constellation*, and *group*, have also been proposed, with different researchers using them in different ways. Some consider *trilateral alliances* to be a separate category.

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THE MERGER PARADOX

Determinants and Effects

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Firms that are quoted on the stock markets of Western industrialized economies undertake hundreds of acquisitions (or mergers) every year. Sometimes, however, these hundreds rapidly grow into thousands. Curiously, the lion's share of these acquisitions—depending on the industry, roughly between 65% and 85%—repeatedly fail to create shareholder value. This is the so-called “merger paradox”: If most of these acquisitions fail, why then do they at times remain so popular? A large part of this chapter will be devoted to answering this question. We will discuss several theories of the firm such as theories that try to establish the drivers of firm behavior—in which executives play a dominant role—in order to see whether they can account for systematically thick acquisitions. We will subsequently discuss the possible effects of such mergers both on the firms concerned and on the economy as a whole. We will conclude with a discussion of management and policy implications of the merger paradox both at the level of business executives and public policymakers, including policies to prevent the paradox from manifesting itself again in the future. First, however, we will have to consider the stylized facts of merger performance at some length as this is so neglected in the management literature that newcomers to the field find it difficult to accept that a majority of (merger-active) firms appear to violate the assumptions of Economics 101.

Finding adequate answers to the merger paradox is important for several reasons. First, explaining firm behavior that is not economically rational yet common must have

implications for received theories of the firm. Second, understanding the determinants of merger failure is helpful in developing effective corporate strategies in daily business practice. Third, since merger failure not only appears to express itself in terms of profits or innovation but also in terms of shareholder value, understanding merger dynamics is also helpful to investors. Finally, since merger failure at times is so widespread, understanding its causes is helpful for public policymakers, too. Thus, the entry provides practical information to executives in various branches of the economy: firm managers and fund managers as well as public managers.

Given this importance, it is rather noteworthy that most merger research has focussed on prescriptive rather than explanatory issues. That is, it has focused on how to improve the chances for merger success without really considering why so many mergers fail. Economists in this respect have simply evaded the question while relying on the assumption that nonoptimal decisions will “automatically” be corrected by the market's disciplinary apparatus. Management researchers normally assume that mistakes can be corrected by (a) becoming aware of them; and (b) taking corrective action. Thus, it is assumed that managers can learn from mistakes—that's the whole point of providing management education—and will not commit the same errors in the future as committed in the past. Commentators and authors of management texts have come up with a bookcase full of monographs informing us that careful preparation of the deal and much attention for integration after it would

significantly improve the sad fate of mergers. Assuming that executives would be capable, just like the rest of us, to learn from mistakes, indeed, it is curious why—collectively—they have not demonstrated such learning over time. Mergers during the second half of the 1990s failed to the same extent as those of the 1960s and 1980s, if not to a larger extent.

Theories fail because of wrong assumptions—in this case with respect to the efficiency of markets, capital markets in particular, as well as with respect to determinants of human and thus management behavior. With respect to management decision making, these assumptions include the rationality assumption (for mainstream economics) or the bounded rationality assumption (for mainstream management theory). Capital markets are assumed to at least be efficient enough to make sure that executives strive for the best and only the best—in case of failure, they will be removed from office through takeover by a more efficient party.

This chapter reaches the conclusion that the typical executive's discretion should not be overestimated while the power of strategic imperatives should not be underestimated. In particular, the chapter shows that when making such important decisions as those concerning merger, executives follow mimetic routines. Modern decision-making theory suggests that the avoidance of regret, the existence of strategic uncertainty, and the many opportunities to share the blame for failed mergers combine to seduce executives into imitating early movers—even if the prospects for wealth creation are dim.

The important things to keep in mind are that most mergers occur during merger waves; that only mergers among equals, and the acquisition of small, private firms by much larger ones are generally able to create wealth; that the further down a merger wave, the smaller the chances for success; that many mergers are unbundled after some time; and that in the case of mergers strategic rationality may diverge from economic rationality. More elaborate discussions of the issues covered in this chapter can be found in Schenk (2006).

MERGER WAVES AND MERGER PERFORMANCE

The striking thing about mergers is that they appear in waves. Between 1900 and 2000, there have been five such waves, three of which occurred after World War II. During the fifth wave, which had its rising tide from 1995–2000, American and European firms invested no less than 9,000 billion U.S. dollars. At the time, by way of comparison, acquisition expenditures by American and European firms were about seven times larger than Britain's annual gross domestic product (GDP). On average, they amounted annually to about one fifth of U.S. GDP. Investments in mergers and acquisitions were approximately equal to 60% of their gross investments in machinery and equipment (Gross

Fixed Capital Formation), and they easily outpaced those in research and development (R&D). A sixth wave manifested beginning in 2004, approaching the peaks of the fifth.

Thus, when dealing with the phenomenon of mergers, we are dealing with one of the most important—perhaps *the* most important—phenomenon of Western-style capitalism. If these mergers would create wealth, they would significantly contribute to the wealth of nations. Alternatively, should they go wrong, they would significantly hurt economies.

By now, the performance of mergers and acquisitions has been the subject of many dozens of studies, both in terms of real-value effects and in terms of shareholder value effects. By far, most studies have estimated shareholder value effects, using mostly stock market data and predicted normal returns as controls. Those studies that estimated real-value effects, however, have used more sophisticated data—usually drawn from firm statements—as well as more sophisticated methodologies. They have commonly used size and industry-matched control groups of nonmerging firms and/or *ceteris paribus* extrapolations of premerger performance. Although the findings of the various studies are not completely consistent, the general tendencies are clear. Besides, since both shareholder value and real-value studies—under certain restrictions—share similar conclusions, findings must be regarded as convincing.

Real Value

Perhaps the most important study of real-value merger effects is Dickerson, Gibson, and Tsakalotos (1997). For a panel of almost 3,000 U.K.-quoted firms that undertook acquisitions during the period 1948–1977, they found a systematic detrimental impact on company performance as measured by the rate of return on assets. More specifically, for the average company, the marginal impact of becoming an acquirer was to reduce the rate of return relative to nonacquirers by 1.38 percentage points (i.e., in the year of the first acquisition). Taking all subsequent acquisitions into account, acquiring firms experienced a relative reduction of 2.90 percentage points per annum. Since the mean return across all nonacquiring firms was 16.43%, this translates into a shortfall in performance by acquiring firms of 2.9/16.43, which is around 17.7% per annum.

This finding is not an exception. On the contrary, the most common result of merger-performance studies is that profitability and productivity, variously measured, do not improve as a result of merger. In many cases, efficiency does not improve or in fact declines, while in other cases it improves but not faster than would have been expected in the absence of merger. Since it is unlikely that the market power of merging firms *declines* after merger, any decline in profitability can be taken to indicate a decline in efficiency. Mergers and acquisitions appear to lead to less product variety while increases in the rate of technological progressiveness appear to remain at bay. Acquisition variables, after

size, leverage, return on assets, and liquidity are controlled for, appear statistically significant, negative predictors of R&D intensity adjusted for industry. Market-share growth seems to slow down after a merger as well, while acquired firms lose market share against control groups of firms that remain independent. For instance, among the world's 18 largest pharmaceutical firms, 11 out of 12 that participated in mergers lost combined market share between 1990 and 1998 whereas all six of those that had not merged gained market share ("The New Alchemy," 2000).

Generally, even in an industry as fragmented as banking, the consensus concerning mergers and acquisitions (M&As) is that at best they lead to very little improvements in productive efficiency. Exceptions exist, of course, but they mostly pertain to mergers among very small, locally active banks. The findings suggest that the larger the merging banks are, especially when their size is beyond a still quite limited asset size of \$10 billion, the smaller the chances for cost improvements. Indeed, for the largest banks in Europe and elsewhere, there appears to be no significant relationship between size and profitability.

Overall, several methodological criticisms may be brought against some of the established types of merger-performance studies (for example, see Calomiris, 1999). Yet, the evidence appears consistent across studies of financial as well as nonfinancial mergers and across time periods.

In fact, the only substantial exception to the findings just reported is a study by Healy, Palepu, and Ruback (1992) which investigates postmerger cash flow for the 50 largest nonfinancial U.S. mergers consummated between 1979 and 1984. By adopting the same index as Ravenscraft and Scherer (1987) did in the most revealing study to appear before the fifth merger wave (and arguably the best ever), Healy et al. purported to have refuted the Ravenscraft and Scherer findings. Their results showed that around two thirds of these mergers had cash-flow improvements *ex post*. However, Healy et al. deflated this index of performance by a market-based asset variable that can imply cash-flow/asset performance indicator gains relative to the market even when cash flows are deteriorating relative to those of peer companies, namely if acquiring company market value falls relative to the general market—which, indeed, appeared to be the case.

Moreover, it appeared that many assets were sold after the merger. Upon closer inspection, these assets appeared to have high book values but low sell-off revenues. This clearly suggests cooking of the books, in the sense that some assets might have been artificially inflated in order to prevent high write-ups to goodwill accounts. Sell-offs in this case will result in relatively favorable cash flow/asset performance during the postmerger years. Indeed, when the authors in a later (substantially less well-known) study added acquisition premiums to the deflator, results deteriorated significantly. On average, the mergers studied now appeared to be unprofitable and/or insignificantly different from sector indicators.

Shareholder Value

Similar results are obtained when the focus is on shareholder instead of real wealth. A review of 33 earlier studies by Mueller (2003) found that while target shareholders usually gain from acquisitions, acquirer shareholders almost always lose, especially in the long run. Generally, the longer the postmerger assessment period, the more negative shareholder returns appear. Usually, positive abnormal returns are only evident for a few days around the event (and even then, only when preevent build-ups of share prices are underestimated), but taking this as evidence requires a strong belief in the Efficient Market Hypothesis (that securities markets excellently and quickly reflect information about individual stocks and about the stock market as a whole). Mueller's findings were confirmed by various studies on European mergers.

Interestingly, when taken together the data suggest the possibility of intertemporal (rather than intersector) variations in merger performance. One of our own studies, focusing on European mergers, divided a sample into 5-year cohorts (beginning with 1995 and ending with 1999). For 400 postmerger days each, the study revealed that "earlier" acquisitions perform better (or less badly) than "later" acquisitions. The 1995 cohort reached positive results but all others were in the negative, the 1999 cohort performing worst of all; it saddled its shareholders with an average cumulative loss of almost 25%. Similarly, in a study of about 12,000 (American) acquisitions from 1980 to 2001, Moeller, Schlingemann, and Stulz (2003) found that while shareholders lost throughout the sample period, losses associated with acquisitions after 1997 were "dramatic."

The periodicity found in these studies is consistent with newer work by Carow, Heron, and Saxton (2004) investigating stockholder returns for 520 acquisitions over 14 industry-defined merger waves during 1979–1998. They found that the combined returns for target and acquiring shareholders were higher for mergers that took place during the early stages of these waves. Well-performing acquirers all made their acquisitions during these same stages.

Finally, it is worthwhile to refer to a recent study assessing the added effects of 93 studies with 852 effect sizes (i.e., germane bivariate correlations) with a combined *n* size of 206,910, where *n* was derived from adding the number of companies on which each of the 93 studies relied (King, Dalton, Daily, & Covin, 2004). Observed zero-order correlations between the variables of interest were weighted by the sample size of the study in order to calculate a mean weighted correlation across all of the studies involved. The sample included both shareholder and real-value studies (with the latter limited to studies of the effects on return on assets, return on equity, and return on sales). Abnormal (shareholder) returns for acquiring firms appeared to be only positive and significant at day 0. Except for an insignificant positive effect for an event window of 1–5 days, all others were negative and significant (i.e., for event

windows of 6–21 days; 22–180 days; 181 days–3 years; and greater than 3 years). Similarly, all results for acquiring firm's return on assets, return on equity, and return on sales were either insignificant or negative.

In conclusion, the most robust discriminator of success and failure is intertemporality: the further down the merger wave, the more disappointing economic results become.

Summary and Implications

Obviously, when most but not all mergers fail to boost profits, efficiency, shareholder value and so on, it becomes of importance to learn which factors are associated with success or failure. Unfortunately, the economics and management literatures have not been able to produce systematic evidence in this respect, except for studies that tracked productivity effects in cases in which specific plants were transferred from one owner to another. But with respect to “real” mergers, about all we can say, following the meta-analysis performed by King et al. (2004) mentioned previously, is that postmerger performance is not related to type of firm (conglomerate vs. specialized); relatedness between target and acquiring firm (in terms of resource or product-market similarity); method of payment (cash vs. equity); and acquisition experience.

However, the findings from merger performance studies also raise more fundamental questions. If mergers that do not create wealth, or even destroy it, are so common and recurrent, one is led to accept either one of two propositions. Either corporate executives are not sufficiently equipped to run the firms they are heading, or they do not care as much about the economic results of their actions as economic theory predicts they should.

DETERMINANTS OF THE MERGER PARADOX: RECEIVED THEORY

Conventional economic decision-making theory cannot provide us with an adequate answer. It relies on the assumption that nonoptimal decisions are “automatically” corrected by the market's disciplinary apparatus so that, by implication, mergers cannot fail in a structural sense. In modern variants of this neoclassical interpretation of the economy, firms are disciplined by the workings of the so-called market for corporate control. Underperforming firms—i.e., firms that undertake uneconomic mergers—will become targets of more efficient firms that through a takeover will take them back to efficiency optimization. Constraints to takeovers should, therefore, be eliminated. Thus, takeovers in this view are regarded as instruments that the economy uses en route to further wealth—instruments of economic progress. Notice that an important implicit assumption is that firms cannot display perverse behavior; for example, they cannot through a takeover of potential waylayers turn the market for corporate control to their advantage.

All approaches that rest on economic utilitarianism and methodological individualism have great difficulties in coping with economic subjects that repeatedly refrain from maximizing economic returns. Management theory often assumes that, in the end, an executive has control over his or her own policies. For instance, smarter executives are believed to outperform dumb executives. Chance is almost never included in analyses while the impact of outside forces and institutions is seriously underestimated. Success or failure is attributed to the CEO.

Yet, two theories have come to be accepted as explanations for uneconomic mergers, both of which put an emphasis on the possible effects of too much decision-making freedom for executives.

Agency Theory

Back in the 1930s Berle and Means (1968) observed that for joint-stock firms, ownership had come to be largely separated from control. This opened the possibility of a conflict of interest between principals (owners) and their agents (managers). Whereas owners were assumed to have as their sole interest the maximization of profits, managers might aim for the maximization of personal utility, for example through steadily pushing for larger size (which was assumed to be positively correlated with managerial income) or for perquisites (which would add to managerial status). Faced with disappointing merger results, agency theory soon proposed that managers were undertaking mergers in order to boost their firm's size rather than profits while using up funds that should have been distributed to shareholders.

In addition, whereas principals are expected to be risk neutral, since they can diversify their shareholdings across multiple firms, agents are assumed to be risk averse as their jobs and incomes are inextricably tied to one firm. This would imply that—apart from the size-effect on income—uneconomic mergers would be undertaken in order to prevent loss of job and/or status.

To a certain extent, the empirical evidence is consistent with agency-theory expectations. Managerial income and perks, as well as status, rise with the size of the firm, especially if size has been generated by acquisitions. However, mergers may threaten agents' employment security, as becomes evident from the fact that many CEOs are laid off once the merger wave is over and firms come to realize that many acquisitions have been a waste of funds or have even brought counterproductive results. Moreover, the picture that is depicted of managers is particularly negative. It is somehow hard to believe that the large number of uneconomic mergers should be explained by the fact that managers are disguising and distorting information and misleading or cheating their principals. On the contrary, managers may be just like ordinary people—they may enjoy performing responsibly because of a personal need for achievement, while interpreting responsibility as something that is

defined in relation to others' perceptions (such as would be proposed by "stakeholder theory").

Hubris Theory

Others have tried to explain the merger paradox by suggesting that hubris may lead managers to expand company size through mergers beyond those which maximize real shareholder wealth, and/or to disregard dismal experiences with earlier mergers. Such overconfidence may grow when past success (even if this was quite coincidental) leads to a certain degree of arrogance and a feeling of supremacy, which in turn leads to overpayment. Indeed, the height of bidding premiums appears to depend on whether the bidders can boast a successful premerger record in terms of market-to-book and price-to-earnings ratios (Raj & Forsyth, 2003). Prior success breeds overpayment, smaller bidder returns and higher target returns, thus relative failure. Not only were the premiums paid by hubris firms on average 1.5 times higher, their acquisitions were also paid with paper in 64% of the cases whereas the control group managed just 23%—suggesting that the risks of the deal were in part carried over to target shareholders.

An earlier project by Hayward and Hambrick (1997) used two more indicators of hubris, namely the extent of recent media praise for the CEO and the size difference between the CEO's pay and the other executives' pay in their firms. They reached similar conclusions. Malmendier and Tate (2003) classified CEOs as overconfident when they held company options until expiration. Such CEOs were found to be more likely to conduct mergers while the market reacted more negatively to their takeover bids relative to those of others.

Conclusion

Both agency and hubris theory, the latter in particular, would play an important part in an explanation of uneconomic mergers and acquisitions. However, both are static theories. Clearly, in cross sections, empire builders as well as hubris CEOs will be found to run the highest risk of merging their firms to the brink of failure. But this cannot account for the fact that empire building and overconfidence manifest only under particular circumstances. Also, they take an individualistic point of view, tacitly assuming that a decision maker's actions are independent from those of others. Thus, while possibly correct in a substantial number of cases, agency and hubris theories cannot clarify why (uneconomic) mergers should occur in waves—which is what they do.

DETERMINANTS OF THE MERGER PARADOX: NEW THEORY

What is needed, therefore, is a theory that can explain why firms undertake uneconomic mergers and why they do so at

approximately identical intervals. For this, we have to abandon the maxims of economic rationality and accept more fully the fundamentals of, especially, behavioral theory.

According to behavioral theory, uncertainty or lack of understanding with respect to goals, technologies, strategies, payoffs, and so on—all typical for modern industries—are powerful forces that encourage imitation. When firms have to cope with problems with ambiguous causes or unclear solutions, they will rely on problemistic search aimed at finding a viable solution with little expense. Instead of making decisions on the basis of systematic analyses of goals and means, organizations may well find it easier to mimic other organizations. Most "important" mergers are undertaken by large firms. These firms normally operate in concentrated industries and are usually active in several of those industries at the same time. In the typical situation of single market or multimarket oligopoly, which involves both interdependence of outcomes and strategic uncertainty, adopting mimetic routines is therefore a likely way for solving strategic decision-making problems. Moreover, organizations with ambiguous or (potentially) disputable goals will be likely to be highly dependent upon appearances for legitimacy.

Reputation

This latter point is implied in one of the more interesting models of recent decision theory in which Scharfstein and Stein (1990) assume that there are two types of managers: "smart" ones who receive informative signals about the value of an investment (e.g., a merger), and "dumb" ones who receive purely noisy signals. Initially, neither these managers nor other persons (i.e., stakeholders) can identify the types, but after an investment decision has been made, stakeholders can update their beliefs using the following two pieces of evidence:

- Whether their agent has made a profitable investment
- Whether their agent's behavior was similar to or different from that of other managers

Given the quite reasonable assumption that there are systematically unpredictable components of investment value, and that whereas dumb managers simply observe uncorrelated noise, smart managers tend to get correlated signals since they are all observing a piece of the same "truth," it is likely that the second piece of evidence will get precedence over the first. Since these signals might be "bad" just as well as "good," smart managers, however, may have all received misleading signals. Since stakeholders will not be able to assess or even perceive these signals, they will refer to the second piece of evidence in assessing the ability of "their" managers. Now, if a manager is concerned with her reputation with stakeholders, then it will be natural for her to mimic a first-mover as this suggests to stakeholders that she has observed a signal that is correlated with the signal

observed by the first-mover—which will make it more likely that she is a smart manager.

The more managers that adopt this behavior, the more likely it will be that bad decisions will be seen as a result of a common unpredictable negative component of investment value. In other words, the ubiquitousness of the error will suggest that all managers were victims of a bad signal. Erring managers will subsequently be able to share the blame of stakeholders with their peers. In contrast, managers who take a contrary position will *ex ante* be perceived as dumb. They will therefore be likely to pursue an investment opportunity if peers are pursuing it—even if their private information suggests that it has a negative expected value. Thus, Scharfstein and Stein's (1990) model explains why, according to Keynes (1936), conventional wisdom teaches that it is better for reputation to fail conventionally than to succeed unconventionally.

Rational Herding

This result is not generally dependent on reputational considerations. Whereas Scharfstein and Stein's (1990) model is essentially an agency model in which agents try to fool their principals and get rewarded if they succeed, others have addressed the imitation phenomenon as a consequence of informational externalities. In such models, each decision maker looks at the decisions made by previous decision makers in making his or her own decision and opts for imitating those previous decisions because the earlier decision makers may have learned some important information. The result is herd behavior—that is, a behavioral pattern in which everyone is doing what everyone else is doing.

Herding models are essentially models that explain why some person may choose not to go by his or her own information, but instead will imitate the choice made by a previous decision maker. Following Banerjee (1992), suppose that—for some reason—the prior probability that an investment alternative is successful is 51% (call this alternative i_1) and that the prior probability that alternative i_2 is successful is 49%. These prior probabilities are common knowledge. Suppose further that of 10 firms (i.e., firms called A through J), 9 firms have received a signal that i_2 is better (of course, this signal may be wrong), but one firm that has received a signal that i_1 is better happens to choose first. The signals are of equal quality, and firms can only observe predecessors' choices but not their signals. The first firm (firm A) will clearly opt for alternative i_1 . Firm B will now know that the first firm had a signal that favored i_1 while its own signal favors i_2 . If the signals are of equal quality, then these conflicting signals effectively cancel out, and the rational choice for firm B is to go by the prior probabilities, i.e., choose i_1 . Its choice provides no new information to firm C, so that firm C's situation is not different from that of firm B. Firm C will then imitate firm B for the same reason that prompted firm B to imitate firm A, and so on: all 9 follower firms will eventually adopt

alternative i_1 . Clearly, if firm B had fully relied on its own signal, then its decision would have provided information to the other 8 firms. This would have encouraged these other firms to use their own information.

Thus, from a broader perspective, it is of crucial importance whether firm A's decision is the correct decision. If it is, then all firms will choose for the “right” alternative, but if it is not, all firms will end up with a “wrong” decision. Also, the result of this game is dependent on chance: were firms B through J to have had the opportunity to choose first, things might have come out entirely different. However, when translated into our merger problem, if alternative i_2 is set equal to “do not undertake a merger,” then A's action (“merger”) will always be the first to be observed as a deviation from actual practice, thus prompting firms B through J to respond. The mechanism is especially clear when a first and a second firm have both chosen the same $i \neq 0$ (where the point 0 has no special meaning but is merely defined as a point that is known, i.e. observable, to the other firms). That is, the third firm (firm C) knows that firm A must have a signal since otherwise she would have chosen $i = 0$. Firm A's choice is therefore at least as good as firm C's signal. Moreover, the fact that B has followed A lends extra support to A's choice (which may be the wrong choice nevertheless). It is therefore always better for C to follow A.

The main virtues of this type of model—sometimes called cascade models—are

1. that some aspects of herd behavior can be explained without requiring that a decision maker will actually benefit from imitating earlier decision makers (which would be the case if undertaking some action is more worthwhile when others are doing related things); and
2. that it is possible that decision makers will neglect their private information and instead go by the information that is provided by the actions of earlier decision makers (or the prior probabilities).

Regret

The entry thus far has shown that the intricacies of information diffusion in sequential games can cause imitation despite the fact that a follower's private information would indicate a deviation from the trajectory that seems to have been started. Notice, however, that they are couched in a positive payoff framework. Furthermore, they make use of binary action sets implying that only correct and incorrect decisions are possible and that a small mistake incurs the same loss as a large mistake. The introduction of a regret framework relaxes these conditions and increases the plausibility of models of herding behavior. In a seminal series of experiments, Kahneman and Tversky (1979) found that people systematically violate two major conditions of the expected utility model's conception of rationality when confronted with risk: the requirements of consistency of and

coherence among choices. They traced this to the psychological principles that govern the perception of decision problems and the evaluation of options. Apart from the fact that it appears to matter substantially in which frame a *given* decision problem is couched (or presented; formulated), even to the extent that preferences are reversed when that frame is changed, choices involving gains are often risk averse and choices involving losses involve risk taking. Thus, it appears that the response to losses is more extreme than the response to gains. Kahneman and Tversky's "prospect theory," of course, is consistent with common experience that the displeasure associated with losing a sum of money is greater than the pleasure associated with gaining the same amount.

Consequently, it is likely that the contents of decision rules and standard practices will be biased in such a way that they favor the prevention of losses rather than the realization of gains. Thus, behavioral norms that carry this property are more likely to be chosen as Schelling's so-called focal points. In practice, this will mean that firms are likely to adopt routines that imply a substantial degree of circumspection. A similar degree of circumspection is likely to develop if decision makers are concerned with the regret that they may have upon discovering the difference between the actual payoff as the result of their choice and "what might have been" the payoff if they had opted for a different course of action. Regret in this case may be defined as the loss of pleasure due to the knowledge that a better outcome may have been attained if a different choice had been made. Under conditions of uncertainty, a decision maker will modify the expected value of a particular action according to the level of this regret.

Minimax-Regret

Various authors have suggested that one way of expressing this is by adopting a minimax-regret routine. Let us assume that a decision maker knows the payoffs for each decision alternative but that he is completely ignorant as to which state of nature prevails. The minimax-regret routine then prescribes that he selects the strategy that minimizes the highest possible regret assuming that the level of regret is linearly related to the differences in payoff. The minimax-regret criterion thus puts a floor under how bad the decision maker would feel if things go wrong. Moreover, doing so will protect him against the highest possible reproach that can be made by those stakeholders who assess the decision's utility based on the true state of nature.

When put into a framework of competitive interdependence, this develops as follows. Given that firm A announces the acquisition of firm B, and that this acquisition for some reason attracts attention of its peers (rivals), firm C will have to contemplate what the repercussions of this initiative for its own position might be. Suppose that there is no way that C can tell whether A's move will be successful or not. A's move could be genuinely motivated by a

realistic expectation that its cost position will improve or by a realistic expectation that its move will increase its rating with stakeholders or even its earnings. That is, A's competitiveness position vis-à-vis its peers might be improved as a result of that move, say in terms of a first mover advantage. But then again, it might not. For example, A's move might be purely motivated by the pursuit of managerial goals, or it might simply be a miscalculation caused by hubris. What is firm C to do?

Suppose that A's move will be successful, but that C has not reacted by imitating that move itself (which we will call scenario α). To what extent will C regret not having reacted? Alternatively, suppose that A's move will not be successful but that C has imitated it, solely inspired by the possible prospect of A's move being a success (scenario β). To what extent will C regret this when the failure of A's move becomes apparent? Within a minimax-regret framework, it is likely that C's regret attached to scenario α will be higher than the regret attached to scenario β . For in scenario α , C will experience a loss of competitiveness, while in scenario β its competitive position vis-à-vis A will not have been harmed. Of course, C could have realized a competitive *gain* in scenario β had it refrained from imitation, but in terms of the minimax-regret model its regret of having lost this potential gain is likely to be relatively small. The implication is that under conditions of uncertainty a strategic move by firm A will elicit an imitative countermove by its rivals—even if the economic payoffs are unknown.

We conclude that a decision maker who is using a minimax-regret routine will imitate actions of earlier decision makers that are regarded as significant. Thus, if—for some reason—a first decision maker within a strategic group has decided to undertake a merger, a second decision maker may follow suit even if his or her own information suggests otherwise. Evidently, such imitation may lead to cascades that will last very long if not forever. In a sense, mergers and acquisitions have then become taken-for-granted solutions to competitive interdependence. It implies that firms may have become locked into a solution in which all players implicitly prefer a nonoptimal strategy without having ready possibilities for breaking away from it.

Even if some firms do not adopt minimax-regret behavior, it will be sensible for them to also jump on a merger bandwagon. For cascading numbers of mergers and acquisitions imply that the likelihood of becoming an acquisition target increases. Thus, given the finding that relative size is a more effective barrier against takeover than relative profitability, firms may enter the merger and acquisition game for no reason other than to defend themselves against takeover. Needless to say, such defensive mergers will amplify the prevailing rate of mergers and acquisitions. The cascade will inevitably stop as soon as (a) the number of potential targets diminishes, which is a function of the intensity of the cascade, and (b) the disappointing merger returns decrease the chances for obtaining the financial means necessary for further merger investments.

Conclusion

The existence of strategic interdependence under uncertainty, conditioned by the availability of funds, compels managements to undertake mergers even if these will not increase economic performance. Inertia may prevail for long periods, but as soon as an initial, clearly observable move has been made by one of the major players, it is likely that other players will rapidly follow with similar moves. With multimarket oligopoly omnipresent, and given the increasing weight assigned to stock-market performance appraisals, the ultimate result may be an economy wide merger boom. Eventually, many firms will find themselves stuffed with acquisitions that were neither meant nor able to create wealth. Consequently, after the strategic imperatives have receded, firms will start licking their wounds by undertaking corrective actions. In the short run, they are likely to look for cheap and easy alternatives, like economizing on all sorts of expenses (e.g., labor, R&D). In the medium run, they will spin off many of the acquisitions done during the boom—sometimes at great cost. Figure 34.1 depicts the different stages of the restructuring wave.

Mergers that have been undertaken for minimax-regret or defensive reasons have been called “purely strategic mergers.” These are mergers that are intended to create strategic comfort when faced with the uncertain effects of a competitor’s moves, rather than economic wealth (or, for that matter, monopoly rents). It is precisely for this reason that it would be futile to wait on the so-called learning capacities of organizations to improve economic merger performance. In a system dominated by a few, such purely strategic mergers are simply part of the game—and since these mergers on average may only turn out to be wealth-creating by chance, uneconomic mergers will also be the

order of the day especially whenever firms are baiting each other into a merger wave.

Implications

If uneconomic mergers are unavoidable in a free-market system, the real question for firms is how to minimize the negative effects. One possibility consists of shedding part of the risk on the target’s shoulders. Indeed, during the fifth-merger wave, the majority of merger investment was financed by an exchange of shares. More generally, issuing new shares for financing an acquisition shifts the burden of failure to shareholders whereas the employment of financial reserves or borrowing has a much more immediate effect on the firm’s health.

Another way out, or at least in part, consists of pursuing virtual rather than “real” mergers. In the majority of cases, once environmental pressures have diminished, the acquisition no longer makes sense. Thus, it would be natural to proceed to sell-off. However, most acquisitions are legitimized by pointing at potential integration synergies. If such integration, indeed, has been pursued, it will become more costly to demerge again once this is deemed preferable—which, gathering from the data, is the case in more than half of all acquisitions. The solution to this dilemma would be to forge a virtual merger. That is, whereas the strategy game requires the firm to participate in an ongoing merger wave, business logic would prohibit the same firm to materially integrate its newly acquired entity in the parent organization. If, in due course, the acquisition appears to have met the requirements of business rather than strategy logic after all—after the merger wave has reached its summit—there will still be many chances to proceed to integration. The schizophrenia is embedded in taking decisions to acquire while at the same time taking measures to sell off the acquired entity again as soon as possible.

Meanwhile, beginning during the fourth-merger wave in the late 1980s, a complete new industry has grown that has specialized in facilitating spin-offs of previously acquired subsidiaries or divisions. Sometimes labeled locusts, these private-equity companies (PECs) benefit from the large number of failed mergers by offering to arrange break-ups. A cynical observer would note that the whole process looks like a carousel of detours. Perhaps, it would have been more efficient had the original mergers not taken place at all.

Indeed, it has been estimated that the fifth merger wave may have implied efficiency losses of 2,100–3,600 billion U.S. dollars, with the lion’s share falling in 1999 and 2000. Since these losses are real efficiency losses rather than numbers based on perceptions of failure (i.e., on stock-market statistics), we are talking about serious money here. For example, for the United States

Stage 1	Preconditional Stage A booming economy provides the necessary means (cash; stock appreciations; borrowing facilities), but is not sufficient
Stage 2	Event Stage A single (random) merger ignites the game
Stage 3	Response Stage Minimax-regret and defensive routines lead to bursts of merger activity
Stage 4	Depletion Stage The merger boom levels off as a result of lacking and/or lagging productivity/profitability gains, and price rises for targets
Stage 5	Recovery Stage Reconstitution management sets in (sell-offs, divestitures, demergers; lay-offs)
Stage 6	Normalization Stage The pool with targets is refilled

Figure 34.1 Stages of the Restructuring Wave
SOURCE: Schenk, 2006.

and Europe, such losses amount to approximately 3% of cumulative GDP. An additional and perhaps even more far-reaching result is the knock-on effect on investment and consumption spending. If funds do not generate wealth, this implies that they do not create economic growth. It could be argued that the billions expended on mergers do not vanish from the economic process. Shareholders at the receiving end may—instead of creating a consumption bubble or overindulging themselves in conspicuous consumption—reinvest their newly acquired pecuniary wealth in investment projects that do create economic wealth. If so, then we would merely have to worry about a retardation effect. Still, such an effect may be significant, since an accumulation of retardation effects—and this is exactly what is likely to happen during a merger wave—is called a recession.

Current competition and antitrust policies, though designed to prevent or punish corporate behavior that is eating into society's wealth-generation processes, are currently not able to protect the economy from such behavior. Taking uneconomic mergers into account has not become easier as competition authorities have changed their focus from the once cherished public-interest criterion to efficiency, productivity, and contestability considerations (Hess & Adams, 1999). In many cases, moreover, it has become modern to see as the ultimate goal of competition policy the maximization of consumer surplus. This is clearly a much too narrow interpretation of wealth. Reappraising mergers in terms of the public rather than the consumer's interest, therefore, would seem an elegant line of public-policy approach to mergers.

SUMMARY AND CONCLUSIONS

This entry has suggested that the omnipresence of failed mergers is not surprising since uneconomic mergers seem a natural result of competition among the few. Such competition encourages strategic rather than economic behavior; that is, behavior that is not primarily driven by the wish to create wealth but by the behavioral peculiarities of strategic interdependence. Even if only some firms adopt a minimax-regret rationale, others will be forced to jump on merger bandwagons for defensive reasons. Under certain conditions, the result will be an extremely costly merger wave. Once this becomes evident, firms need to take corrective actions. Consequently, such merger waves are followed by periods of restructuring, large-scale divestment and layoffs. The sheer size of the problem may be sufficient to provoke economic recessions. Whereas the observed effects are rooted in the high levels of economic concentration that have become typical for modern economies, therefore a matter of competition policy, current merger regulations may not be the preferred means of control. Merger regulations have been designed to prevent as many harmful mergers as possible while preserving economically efficient mergers. As long as the consumer's interest will remain the main vehicle for defining the wealth of nations, however,

competition economists and authorities will be led away from the most pervasive problematic effect of mergers. Rather, one would want to see competition policy return to its roots by putting the public interest at centre stage.

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EVOLVING ASPECTS OF OUTSOURCING TO INDIA

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Today outsourcing is widely practiced in all forms of organizations including corporations, governments, charities, and religious institutions. Simply put, outsourcing is a contractual agreement between the client (the organization that does the outsourcing) and one or more external suppliers (vendors) to provide services or processes currently provided by the clients' internal organization. A recent review of outsourcing (Espino-Rodriguez & Padron-Robaina, 2006, p. 51) provides different definitions of outsourcing that has evolved over time. Some are summarized here:

- Outsourcing involves making a variety of "make" or "buy" decisions to obtain the necessary supplies of materials and services for the production of the organization's goods and services.
- Outsourcing refers to the act of turning to an external organization to perform a function previously performed in-house. It entails the transfer of the planning, administration, and development of the activity to an independent third party.
- Outsourcing is a collaboration agreement between different types of firms in which one firm is a specialist in technology and makes a significant contribution to the other by providing physical and/or human resources during a certain period in order to attain a determined objective.
- Outsourcing involves the substitution of activities performed in-house by acquiring them externally, although the firm has the necessary management and financial capa-

bilities to develop them internally. It is also an abstention from performing activities in-house.

- Outsourcing not only consists of purchasing products or services from external sources, but also transfers the responsibility for business functions and often the associated knowledge (tacit and codified) to the external organization.

Though organizations initially outsourced only what can be considered support (noncore) activities, the scope of activities has now significantly expanded to include what can be considered core activities as well.

This paper is structured in eight broad sections dealing with the following topics: different types of outsourcing, outsourcing of information technology (IT) and related services, IT outsourcing to India, advantages of outsourcing to India, evolution of outsourcing to India, trends in Indian IT off-shoring, and outsourcing to India in non-IT-related areas.

TYPES OF OUTSOURCING

Outsourcing of activities can range from the most basic to the most complex. For example, an industrial manufacturing firm may provide transportation facilities to its employees to reach the office from their residence and back. If the firm contracts with a transportation company to provide such a facility, it is outsourcing its transportation requirements. Since transportation in this case is not

the firm's main business activity, this is an instance of a firm outsourcing its noncore activities. On the other hand, a large automobile manufacturer, say General Motors, may contract with an automobile ancillary manufacturing unit in India to manufacture some components for their automobiles. This can be seen as an instance of outsourcing where the firm uses an external vendor to outsource activities related to its main line of business.

Outsourcing is not something new, and companies have been practicing outsourcing since the industrial revolution. Companies have brought innumerable products and services from outside companies since the modern idea of a company has been in existence. In recent years, in addition to the overall growth in volume of outsourcing, new models of outsourcing have evolved. These models are the result of the rapid advances in telecommunication and information technologies and the growing comfort with outsourcing among industry executives. Broadly, the form of outsourcing can be any or a combination of the following depending on the vendor location:

- *On-shoring*: An outsourcing contract signed with a provider located within the country. While there might be a movement of jobs from one company to another in an on-shoring contract, there is no loss of employment opportunities to a foreign country.
- *Off-shoring*: An outsourcing contract signed with a provider located beyond the nation's boundaries. The concept of off-shoring has achieved importance in recent years as companies have started outsourcing IT work to destinations like India and other low-cost countries (LCCs). Off-shoring work can sometimes result in job losses in those countries undertaking outsourcing. Recently, off-shoring has received a lot of publicity, adverse or otherwise, in countries like the United States because of job losses. In fact, outsourcing of IT and related activities became an election topic in the 2004 U.S. presidential election.
- *Near-shoring*: Similar to off-shoring with a slight variation. In a near-shoring engagement, outsourcing is done to a service provider located in a neighboring country. For example, if a firm in United States outsources its work to a firm in Canada or Mexico, it is called near-shoring

Most of the initial outsourcing happened in manufacturing sector when automobile and apparel manufacturing companies used companies in China and Far East Asian countries to manufacture relevant components and accessories for their end products. These were in the nature of "blue-collar" work. However, the recent advances in telecommunication and information technologies have enabled the possibility of outsourcing even "white-collar" tasks. Today India is a leading destination for outsourcing IT and business process outsourcing (BPO) work. For some reason, outsourcing of manufacturing never came to be known as off-shoring. The concept of off-shoring came into prominence only when IT work was outsourced to destinations in India. Given the leadership position that India has

attained the area of IT outsourcing, the discussion in this chapter will largely focus on IT outsourcing.

OUTSOURCING OF IT AND RELATED SERVICES

IT has become an integral part of modern organizations today. The statistics are stunning. From a rudimentary base in the 1970s, the global spending on software services alone (which does not include packaged products) exceeds \$350 billion today. The business paradigm for sourcing software services has also evolved over the years. From the time when Eastman Kodak announced its \$1 billion deal to outsource its information systems (IS) to IBM, DEC, and Businessland in 1989, contractual arrangements for sourcing software services have become more and more innovative. Today, the outsourcing of software services has become a standard business practice in organizations rather than an exception. The Outsourcing Institute's survey of 1,200 companies indicates that 50% of all companies with IS budgets of \$5 million or more are either outsourcing or evaluating the option of outsourcing. More significantly, a considerable amount of such outsourced work now goes to offshore service providers in LCCs such as India and China. Even global consulting and service providers such as IBM, CapGemini, and Accenture have in recent years started creating delivery infrastructure in countries like India to provide cost-effective services to their global clients. With more than 90% of the world's major companies engaged in some kind of offshore initiative, outsourcing of IT and ITES have become synonymous with offshoring. In this chapter, therefore, outsourcing is used interchangeably with off-shoring.

Key Benefits From IT Outsourcing

The most frequently cited benefits of IT outsourcing include cost reduction, service-quality improvement, and the ability to focus on the core business. Cost reduction is an immediate benefit that many outsourcing companies are able to achieve. Firms in the United States or the United Kingdom usually gain from the lower wages in the LCCs, which are 40% to 60% below the prevailing rates in the United States and the United Kingdom. Firms evaluate outsourcing to determine if the current operating costs can be reduced and if saved resources can be reinvested in more competitive processes. Since the outsourcing contract receivers are typically servicing many clients, economics of scale and scope often help the vendors achieve lower unit costs than can any single company. For example, the often quoted 1995 *Harvard Business Review* article indicates that British Petroleum was able to achieve overall reduction in IT operating costs from \$360 million in 1989 to \$132 million in 1994. In a more recent article that appeared in *McKinsey Quarterly*, Stephen McGuckin, managing director for IT at Deutsche Post World Net, the corporate parent

of Deutsche Post and DHL, indicated that they were able to cut their IT costs by 40% within a year of off-shoring. Even when there are other benefits sought and expected from outsourcing functions, those benefits are measured and tend to be valued in terms of cost reduction.

Other Motivations for IT Outsourcing

In addition to cost reduction, service-quality improvement, and focus on core business, the following reasons are usually cited as possible reasons for outsourcing IT services:

- *Availability of adequate manpower:* Shortage of qualified manpower in technology areas is often cited as a reason for off-shoring. Many firms find that very often there is not enough talent with sufficient qualifications in their own country.
- *Round the clock service:* Time saving is another reason for outsourcing some of the in-house IS work to offshore outsourcing. In some cases, the supplier is thousands of miles away in another time zone. This gives the possibility of programming for nearly 24 hours a day for U.S. clients and nearly 18 hours a day for the U.K. clients (with India as the outsourcing destination). This significantly reduces the product-development lifecycle.
- *Reduced investment in technology and shared risks:* Outsourcing companies are able to use common infrastructure to service multiple clients. Outsourcing firms thus provide economies of scale and scope advantages to their clients.
- *Ability to access best in class skills:* Very often non-IT companies are not in a position to provide an attractive career path for their IT employees, since they are considered as a support staff for mainstream business functions. Hence, the IT departments in these organizations are not able to attract high-quality talent. Outsourcing companies, on the other hand, are able to provide a strong career path for the IT employees and hence are able to attract best in class skills.
- *Increased flexibility to configure resources to meet changing market needs:* Outsourcing provides clients with the flexibility to ramp up or down some operations without changing the employee count. Offshore contractors can be used to deal with peak periods of demand while avoiding hiring personnel that will not be needed later. It also helps in risk mitigation, as physically spreading centers to many places out of the company helps in averting the impacts of natural disasters such as quakes and floods.

One often finds that even large companies that have efficient and innovative IT departments (examples include Dupont, British Petroleum Exploration, Lufthansa, Swiss Bank Corporation, and J. P. Morgan) and are large enough to provide the same scale and specialization benefits as an outsourcing vendor are nevertheless engaged in significant outsourcing deals. There are two reasons for the advances that support the rationale for outsourcing by such large firms.

First, outsourcing helps to improve business impact by focusing on improving IT's contribution to company performance within its existing lines of business. For example, the telecommunication service provider, Pacific Bell Telephone, required substantially improved IT-based business capabilities to speed up new product introductions and service enhancements. The main impediment was its aged and inflexible customer billing system, but its IS group lacked the skills and competencies necessary to replace the old system and manage the new one. Thus, the group engaged a specialized IT firm for the task. Another good example is Xerox Corporation, which despite being financially healthy and technologically advanced, decided to outsource in an attempt to completely transform its IT department and resources (viz., technology, process, and people). The company outsourced most of its then-existing infrastructure and 70% of its IS staff to Electronic Data Systems (EDS)—thereby giving them an opportunity to develop new career paths. This also freed its financial and management resources to concentrate on creating future business-critical IT infrastructure and applications and acquiring new IT-related skills for the remaining staff.

Second, it can help in realizing commercial benefits by leveraging technology-related assets applications and know-how in the market through the development and marketing of new technology-based products and services. An often cited example is the case of Swiss Bank Corporation. Swiss Bank Corporation, one of the world's leading retail, commercial, and investment banks, went into IT outsourcing with Perot Systems to speed its IT infrastructure transformation and to explicitly leverage in the marketplace its already substantial investment in IT expertise and infrastructure. The two parties signed a 25-year contract worth an estimated US\$208 million per year; 700 IT specialists were transferred to a new division created by the vendor to provide state-of-the-art systems and network services not only to Swiss Bank Corporation but also to other customers in the global financial services industry.

Outsourcing Gains to the Economy

According to a 2004 study by the McKinsey Global Institute, off-shoring, apart from benefiting individual companies, also provides significant benefits at the national level. These studies indicate that the U.S. economy could gain \$1.14 to \$1.17 for every dollar of off-shoring. Similarly, European economies like France and Germany could gain about 0.86 and 0.74 respectively for every Euro of off-shoring. These gains arise from the increased demand for goods and services produced by companies in the United States and Europe in those countries where outsourcing vendors are based. For example, outsourcing by a U.S. company to an Indian service provider will benefit the U.S. economy in the following ways:

- *Cost savings:* The cost savings enjoyed by U.S. companies is the most important and obvious source of value. For

every dollar of corporate spending that moves offshore, U.S. companies save 58 cents. It is also said that offshore workers in India are often more highly motivated than U.S. workers and perform better (because of attractive salaries as compared to the salaries that exist in other opportunities available in India), particularly in low-skilled jobs that lack prestige and suffer from high turnover in the United States. These lower costs also benefit U.S. consumers since in a competitive economy such as that of the United States, companies pass on the cost savings in the form of lower prices to consumers.

- *Increased exports:* Indian companies that provide offshore services also buy goods and services ranging from computers and telecommunications equipment to legal, financial, and marketing expertise. Often, they buy these from U.S. companies, which results in additional export revenues to the U.S. firms. Increased disposable income to an Indian workforce can also increase the demand for U.S. goods and products in India.
- *Repatriated profits:* Many Indian outsourcing firms are owned in whole or in part by U.S. companies such as GE and EDS. Benefits accrue to the U.S. economy when these outsourcing arms repatriate their earnings to the parent companies.
- *Productivity and new jobs:* Corporate savings from offshoring can be invested in new business opportunities (such as nanotechnology), and this investment will boost productivity and create high value-added jobs such as research and design, which in turn make more profits and benefit the local economy

IT OUTSOURCING TO INDIA

Given the successes achieved by organizations in reducing costs and the overall benefits that offshoring brings to the economy, outsourced service providers would play a more and more important role in delivering software services to organizations worldwide. To give an indication, by the end of 2002, there were over 800 third-party software services providers just in India. India's leadership role in offshoring and software services has now been well recognized, and the growth of offshoring to India has been truly spectacular. In a McKinsey offshoring survey of 239 senior executives in 2004, 65% of the respondents indicated that they offshore or intend to offshore their IT work to companies in India. Nasscom, the industry association in India for the IT and ITES sectors, indicate that export revenues of IT and ITES has increased from \$4 billion in FY2000 to \$37.4 billion in FY2006, with a target of \$60 billion in export revenues by 2010. IT-ITES sector also contributes significantly to the economic activity of India. The sector, which accounted for just 1.2% of India's GDP in FY98, accounted for close to 5% of India's GDP in FY06. The employment in the IT-ITES sectors is expected to cross 1.6 million by FY2007.

These figures highlight the impressive growth in IT-ITES outsourcing activity to India.

The United States is the largest market for offshore software service providers from India, followed by Europe. As the Nasscom figures indicate, 67% the software export revenues are from the United States, followed by Europe, which accounts for about 25% of software exports. Though companies in Europe have been outsourcing their IT requirements for some time, it is only in recent years that they have started offshoring their IT service requirements to Indian vendors. Therefore, the growth in export revenues to Europe is expected to grow faster in the coming years as compared to those of the United States.

In addition to homegrown IT service providers from India, global IT service providers are establishing and expanding their capacities in India to take advantage of the low-cost structures, and thereby become more competitive. By end of 2006, Accenture had close to 17,500 people (which accounts for about 40% of its global strength in outsourcing) in their India centers providing IT outsourcing services to overseas clients. Similarly, IBM employed over 43,000 people, CapGemini employed about 5,000 people (accounting for 8% of their global strength), and LogicaCMG employed about 3,000 people in their India centers in 2006 for providing outsourcing for their global clients. While the global majors have started setting up their delivery centers in India only after 2000, the Indian service providers have a head start as they set up their operations much earlier. However, going by the announcements made by these large corporations, investments in setting up these facilities in India are expected to increase significantly in the near future.

ADVANTAGES OF OUTSOURCING TO INDIA

Over the last few years, India has become a destination of choice for offshoring. In a 2004 study on offshore location, attractiveness index by AT Kearney, India ranked first in the list of the 25 countries included in the study. It retained the top slot in the study as in the previous years by a comfortable margin over China, the second country in the ranking. Even other research agencies like Gartner, Forrester, Giga, and so on have given the top rank to India in their respective research studies on offshore destinations.

The following is a summary of the key advantages that India offers as an outsourcing destination:

- *Low-cost structure:* Software development is a manpower-intensive activity. The labor cost arbitrage that exists between India and its Western countries can therefore provide significant cost benefits. For example, the average annual salary of an IT professional is \$5,850 in India compared to \$63,000 in United States. This leads to a significant cost differential to clients since an average software programmer

in India would only cost \$20/hour, whereas the cost in the United States for a comparable employee would be \$50 to \$60/hour. Even after taking into account the increased transaction costs as a result of off-shoring, overall cost reductions of 25% to 40% are possible from off-shoring because of lower labor costs in India.

- *Education:* India has had a long history of investment in tertiary education, especially engineering. The presence of the world-renowned Indian Institutes of Technology (IITs) and the use of UNIX in the academic environment provides a good educational background for the engineers. Apart from the premier IITs, several universities offer high-quality engineering education. The colleges in Andhra Pradesh alone, 1 of the 25 states in India, produce close to 100,000 engineering graduates every year—which is more than the number of engineering graduates produced by all the U.S. universities combined. Roughly 115,000 computer sciences graduates are produced per year in India and close to 350,000 engineering graduates from other disciplines of engineering enter the software industry each year. This total represents roughly 10 times the available technically trained talent pool in the United States.
- *Language skills:* The government of India realized the importance of English very early, and made it an official language soon after independence in 1947. This has led to a situation where most people undergo 17 years of school education where English is main medium of instruction. India has world's second largest population of English-speaking scientist and engineers, following only the United States. Since most of the software development uses English as the main language, language proficiency has helped India achieve the leadership position in off-shoring.
- *Human resources:* India has a fairly young population where more than half the population is under the age of 25. Since India has many years of experience in off-shoring, the education and training institutes have been able to impart skills that are relevant for the industry. Engineering education provides strong technical and quantitative skills, which are helpful in developing software. Indian service providers have now evolved from providing low value-added services such as maintenance and migration to high value-added services such as business process management, analytics, and consulting. The existing employees are thus familiar with not only the job content, but also with the work ethic, productivity, and quality expectations of global clients, and they are able to bring the new employees up to speed much faster by accelerating their learning cycle. It has also been felt that Indian programmers have a strong enthusiasm for learning and adapting to new technologies. India also has a large supply of qualified talent in areas outside IT, such as basic and applied sciences, finance and accounting, economics, mathematics, and back-office administration. Indian graduates are more mobile than those elsewhere, and they are open to relocating to cities outside their home towns. This helps in obtaining large pool of skilled engineers at preferred offshore locations in India such as Bangalore, Hyderabad, Mumbai, Chennai, and Pune.
- *Time difference with the United States:* India's geographical position with the United States, which gives a time difference of 10 to 14 hours between the two countries, is a big advantage. By engaging in simultaneous development at both on-site and offshore locations, companies have been able to effectively increase their conventional 8-hour work day to about 16 to 20 hours. This has helped in providing faster product development and quicker response to customer queries.
- *Stress on quality:* Indian companies have consistently produced very high-quality results and have made a clear commitment to software process disciplines. For example, nearly 140 Indian contracting firms have achieved ISO 9000 certification and more than 80% of the SEI CMM Level 5 (the highest level of accreditation provided to software developers by Software Engineering Institute, Carnegie Mellon University) certified software developing firms are located in India. In 15 years of off-shoring, the country has developed a group of world-class IT service vendors that can save foreign companies the trouble of setting up their own offshore centers.
- *Stable political environment:* For more than 6 decades after independence, India has had a stable democracy. Though there have been changes in the government following elections, there have been no major reversions to the policies of the earlier government. The policy of liberalization of throwing open the economy to private sector and foreign direct investment, which the government embarked in 1991, has continued to date. Political observers note that this tradition of strong democracy is a big strength of India, given the ideological similarities with the political environment of United States, its biggest market.
- *Legal environment:* India has a strong and robust legal system with an independent judiciary and well-functioning stock markets. While there might be some concerns toward protection of intellectual property rights, the supporting infrastructure is being developed to address issues in that regard.
- *Physical infrastructure:* If there is one concern for India, that is the availability of adequate physical infrastructure in terms of power, roads, airports, and water supply. The government has realized the importance of infrastructure in supporting economic growth and has undertaken ambitious projects in various infrastructure sectors. New international airports are being constructed in Bangalore, Hyderabad, and existing airports at Mumbai and New Delhi are undergoing expansion. A large program called the Jawaharlal Nehru Urban Renewal Mission is being implemented to augment urban infrastructure in different Indian cities. A separate program for national highway development that aims to improve the arterial roads is already underway. It is expected that these initiatives will reduce the infrastructure deficit that exists in the country.

EVOLUTION OF OUTSOURCING TO INDIA

Outsourcing of labor to offshore destinations first became prevalent in manufacturing industries in the United States. Labor in other countries was cheaper than in America and transportation cost fell. This made sending manufacturing work to other countries more economic and thus began a large wave of outsourcing. The process of off-shoring that started in manufacturing gradually began to be practiced in other areas as well. Outsourcing of IT services has now become a very popular source of competitive advantage. IT outsourcing originated from the professional services and facility management services of the 1960s and 1970s in the areas of financial and operations support, when computers were very expensive and physically large. To eliminate or avoid the capital intensive investment in computer hardware, many organizations contracted with data-processing service bureau to operate the data-processing function.

Initially, IS outsourcing consisted of an external vendor providing a single basic function to the customer. An example is a facilities management contract, where the vendor assumed operational control over the customer's technology assets, such as a data center. Outsourcing of IS began to evolve in the 1960s when Ross Perot and his company EDS signed an agreement with Blue Cross of Pennsylvania to handle its data-processing services. This was the first time a large business had turned over its entire data-processing department to a third party. In addition to taking over the facilities, EDS took over the responsibility for Blue Cross's employees in the division. Following the Blue Cross deal, EDS signed several customers such as Frito-Lay and General Motors. However, the real interest in outsourcing occurred during the mid-1980s when EDS signed contracts with Continental Airlines, First City Bank, and Enron. These deals signaled an acceptance of outsourcing as a competitive business model leading to the landmark \$1 billion deal signed by Eastman Kodak in 1989.

While a major problem of IS in the 1960s was the cost of hardware, the expense of software development became a major concern since the 1970s. Since many organizations did not have the expertise to develop software in-house, they looked to external vendors to meet their software requirements. Indian firms realized the importance of providing outsourcing services in software development, maintenance, and reengineering.

Phase 1: On-Site Model

The initial wave of demand for Indian programmers came in the late 1990s when many firms were grappling to address the changes that needed to be made in their computer code to adapt to year 2000 (commonly known as the "Y2K" problem). This required expertise in COBOL language, since most of the existing applications then were developed in that language, and the expertise of which were

not readily available in large numbers in the United States and Europe. Therefore, most firms contracted Indian firms, which had access to a large pool of engineers trained in COBOL. Most of the Y2K work involved mainframes. At the beginning, the practice was usually to send programmers to the respective overseas country to work at client locations, which was known as "body shopping." In the early 1990s, this practice accounted for approximately 95% of Indian software revenue.

Phase 2: On-Site/Offshore Model

Having obtained substantial experience in software development because of on-site work, Indian companies started off-shoring a significant part of the software development cycle at their development centers in India, rather than sending programmers abroad. Simultaneously, the development of Internet and advancement of telecommunication technologies also facilitated the Indian off-shoring companies to execute significant components of their work from India. This helped the Indian software vendors to provide services at lower costs as compared to their global competitors.

A typical outsourcing engagement consists of the following components:

- *Requirement analysis:* During this stage, the vendor understands the client requirements followed by a clear definition of the scope of the project. Since this phase involves intensive client interaction, most of the work pertaining to this stage is done at client location (on-site).
- *Development:* Following the requirement analysis stage is the development of software. Since there is no regular interaction required with the client during the development stage, most of the work is done offshore to take advantage of lower costs.
- *Testing:* The testing of software developed follows the development stage. In most cases, testing is done in two parts. The first part of the testing is done at the offshore location by replicating the client environment to ensure proper functioning of the software. The second part of the testing is done at the client site, in the actual production environment.
- *Implementation:* After the software is successfully tested, it is rolled out in the client facilities. Although it is possible to segregate implementation into offshore and on-site components, most of the activity during this stage is done on-site.
- *Training:* Following implementation, the vendor may be involved in training the users of the software application at the client location. Since training in most cases involves human interaction, it is usually done on-site.
- *Maintenance:* After successful implementation, the offshore vendor may also be responsible for ongoing maintenance of the application. Similar to implementation, maintenance can be segregated into offshore and on-site components.

Today there are technologies enabling maintenance to be provided from offshore locations. Whenever it is possible to provide remote maintenance, offshore companies usually adopt this strategy to take advantage of the lower costs.

Thus, the current model of off-shoring involves separating the development lifecycle into different stages. Stages that are amenable to be executed offshore are done in India, and those stages needing client interaction are done on-site. Off-shoring in India is thus a hybrid model utilizing both on-site and offshore resources to yield the best results in terms of faster, better, and cost-effective development. Over time, new technology has been developed that has enabled vendors to transition most of the work offshore. Testing, implementation, and maintenance, which were earlier considered to be exclusively on-site activities, now offer considerable scope for offshoring. For example, in Infosys Technologies, India's second largest software services company, offshore effort increased to 70.8% of the total person-months during FY2006 as compared to 66.3% during FY2003.

Phase 3: Domain Specialization

The next phase of off-shoring involved further specialization and customization of software development. With the emergence of PCs and client-server technology and the evolution of technology specialization of software to meet the expectations of clients, offshore companies started developing domain expertise in various industry verticals to develop specialized applications for respective industries. Infosys, for example, has separate practices for the following industries: Aerospace and Defense, Automotive, Banking and Capital Markets, Communication Services, Consumer Packaged Goods, Discrete Manufacturing, Energy, Healthcare, High Technology, Hospitality and Leisure, Insurance, Life Sciences, Media and Entertainment, Resources, Retail, Transportation Services, and Utilities. By having such industry-specific practices, Indian software vendors were able to cater to the industry-specific requirements of their clients.

Phase 4: Horizontal and Vertical Movement in the Value Chain

Though off-shoring started with software services, it is being widely used in different types of IT services (viz., maintenance, application reengineering, enterprise applications, and infrastructure maintenance). Offshore firms are positioning themselves as a one-stop shop for all their client requirements. In order to meet that objective, the Indian software firms are not only expanding their breadth of service offerings in IT (horizontal movement in the value chain) but are also providing related services like management consulting (top end of the value chain) and business-process outsourcing (bottom end of the value chain). Infosys

Consulting Inc., a subsidiary of Infosys, provides business-consulting services in an attempt to capture the downstream IT revenues from their consulting clients. Infosys also has a unit called InfosysBPO that provides process outsourcing services. Even other large Indian software companies have their own consulting and BPO practices. This strategy helps the Indian companies in retaining their customers and increasing revenue footprint among its clients.

TRENDS ON INDIAN IT OFF-SHORING

A recent report on trends in off-shoring by Gartner research has identified the following key points:

- *New companies and countries are emerging as viable competitors:* Although Indian vendors dominate the today's offshore market with an estimated 80% to 95% of offshore revenue other countries have already built their own successful capabilities (e.g., Ireland, Northern Ireland, and Israel). In addition, many foreign companies are planning to compete for western business with or without the active support of their governments (e.g., Russia, Hungary, Egypt, Singapore, Pakistan, The Philippines, Russia, Egypt, and Jordan). India has to sustain or improve its competitiveness to retain its leadership position in off-shoring.
- *The level of projects and processes moved offshore is becoming more sophisticated:* Initially, clients primarily outsourced only cost-sensitive, trailing-edge projects (e.g., legacy maintenance, conversions, and migrations) offshore. As the offshore firms proved themselves, clients began to send higher level IT work offshore such as enterprise integration, enterprise resource planning (ERP) work, and e-business development.
- *Software development processes have been refined:* Processes to enable global software development efforts or offshore application management have been revised and streamlined. The CMM accreditation has helped the Indian firms to follow disciplined, mature processes for documentation, communication, sign-offs, and revisions. Although Indian companies may not use any special coding tools or techniques beyond what U.S. enterprises do, their meticulous approach toward these processes (e.g., preparing documentation, planning for alpha and beta releases, establishing user acceptance procedures, regression-testing procedures, and collecting metrics during development activities) has aided in the industry's success.
- *Essential communication infrastructure issues are being addressed:* The offshore industry is highly dependent on first-class communication to sustain current and future growth. Some countries (e.g., in Eastern Europe and Russia) still have inadequate capabilities that prevent them from becoming strong offshore destinations. Despite a severe lack of telecomm infrastructure within India, voice and data communication from Indian data centers to the United States or Europe are excellent.

- *Cultural issues are better understood but still present challenges:* The need for cultural awareness between both parties is fairly well known at this point, but cultural differences still pose a formidable challenge to participants. Most enterprises do not fully appreciate how deep these differences can go from either a business standpoint or an interpersonal one. Some of the ways that cultural differences have been observed include the following dimensions: revering hierarchy, individualism versus collectivism, taking care of business, risk avoidance, and a long-term orientation.
- *The advantages are becoming clear:* Cost saving was the prime reason enterprises adopted off-shoring in the early 1990s. The major drivers in the recent years have gone way beyond cost and include time to market, an available and flexible labor pool, quality, higher productivity, and a 24-hour workday for support activities. Though 24/7 has not yet successfully enabled follow-the-sun global development efforts, it has facilitated round-the-clock customer service, application management support, and production support.
- *Cost dynamics and workforce mix are changing:* India derives its competitive cost advantage from performing high-margin activities offshore. The general goal is to perform about 70% of programming activities off-site and achieve approximately 50% of export revenue off-site. However, for newer projects, which are at the high end of the value chain such as process reengineering, e-commerce projects and so forth, clients desire to have more staff on-site. To retain their margins, Indian firms charge more for on-site people, which in turn can reduce the cost competitiveness of Indian off-shoring firms.
- *Billing rates are decreasing:* Software service is becoming a commodity, and several large deals are being procured solely based on price. Given the competitive market, the billing rates in offshore outsourcing are gradually decreasing in real terms. Vendors offset the effect of decreasing billing rates by improving their productivity.

OUTSOURCING TO INDIA IN OTHER AREAS

The factors behind the success of IT outsourcing (low-cost labor and high-quality manpower) can also be replicated in other areas. The following are a few areas other than IT where India is emerging as an attractive outsourcing destination.

Manufacturing

In addition to IT, India is emerging as an attractive destination for outsourcing manufacturing activities. Though India leads the market in providing offshore services in IT, as a manufacturing center it lags behind countries like China and Thailand. The reasons are as follows: erratic electric supplies, poor roads, gridlock seaports and airports, and government policies that discourage hiring and firing of labor holdback domestic demands in many sectors. Though

the infrastructure hurdles can be considerable, many companies have moved ahead to take the advantage of India's low-cost, but skilled labor in design and manufacturing. For example, Daimler Chrysler, Toyota motors in auto components and engineering, Degussa and Rohm and Hass in specialty chemicals, ABB, Siemens and Honeywell in electronic and electrical products have set up manufacturing operations in India for their global markets. Multinationals considering India as a manufacturing base focus on skill-intensive industries to take advantage of country's abundant supply of well-qualified engineers.

Other factors that attract companies to India for outsourcing manufacturing are the increasing availability of reliable suppliers, the chance to escape unrelenting price pressures at home, and the size of domestic market and government support. Since setting up manufacturing facilities provides new employment opportunities, both the state and central government have provided strong support to players keen on investing in manufacturing facilities in India. The support has ranged from providing land for the project, quicker governmental clearances, and in some cases, tax incentives. Presence of a very large domestic market offers companies a chance to set up facilities that would cater to the needs of both domestic and global markets. LG, Nokia, and Motorola are planning to set up mobile phone manufacturing facilities in India to meet the global as well as local market demand. Commenting on the advantage of outsourcing to manufacturing to India, Carlos Ghosn, CEO and president of Renault, has said, "There is something unique about the frugality in engineering and management here (in India) that we would like learn from." He also added that though there were many low-cost manufacturing countries and India was not the only one "owing to frugal product planning and frugal management that is followed here (in India) and the competitiveness of vendor sourcing, the costs are 30 per cent lower than in Western Europe and Japan."

Pharmaceutical Research and Development

In recent years, U.S. and European firms are discovering the advantages of setting up research and development (R&D) laboratories in India. For example, large pharmaceutical companies such as AstraZeneca and Pfizer have set up their research and analytical centers in India to support their global product development efforts. Before any new drug is introduced in the market, it is mandatory to test the efficacy of the drug on human patients. This process is called clinical research. Increasingly global pharmaceutical companies find recruitment of patients to clinical research programs challenging because of nonavailability of patients for rare diseases. Given the size of its population, India is seen as an attractive destination for outsourcing clinical research because of availability of qualified patients. According to one estimate, the clinical testing business will grow to over \$8 billion by 2008. Like IT outsourcing companies, many specialized companies operate in India providing clinical research outsourcing (CRO).

Knowledge Process Outsourcing

The success in IT outsourcing has given rise to another form of global outsourcing, which is now popularly known as knowledge process outsourcing (KPO). It is another outsourcing concept focusing on knowledge-intensive services and knowledge management. Capturing, creating, sharing, maintaining, tracking, improving, and collaborating knowledge are few domains of knowledge-management apart from two major aspects of knowledge application and dissemination. KPO involves adopting the successful IT outsourcing approach to knowledge-intensive industries such as management consulting and investment research. For example, leading companies such as McKinsey and Goldman Sachs have set up their captive outsourcing centers in India where employees from India work with their global counterparts to provide research and other tactical support to ongoing engagements. These companies recruit MBAs from the top schools in India for their India outsourcing centers. Start-up companies have started providing innovative services under the KPO concept. For example, Hey Math! is a Chennai-based company that provides assistance with mathematics homework to students and lesson plans to teachers over the Internet.

SUMMARY

Most of the companies today look at outsourcing as a useful tool to enable them to compete more effectively. The rationale for outsourcing has expanded beyond conventional cost savings and the need to outsource is now guided by the following objectives:

- Improved productivity measurements
- Increase in cost-efficient foreign competition
- Need to move inventory faster
- Need for flexible production
- Development of supply-chain partnerships

Though India was a late entrant to outsourcing compared to countries such as China and Singapore, it was able to quickly establish itself as a leader in IT outsourcing by leveraging its strengths. To reiterate, India has emerged as a destination of choice for outsourcing IT for the following reasons:

- Availability of highly qualified manpower at lower costs
- Large numbers of technically trained talent pool
- Proficiency in English
- Young population with strong work ethic
- Time difference with the United States, which enables to stretch workdays
- Ability to deliver high-quality consistently

- Stable political environment with well-established and independent judiciary
- Increasing availability of high-quality physical infrastructure

Overtime, the scope of IT outsourcing has expanded to specialized industry-specific solutions and also high value-added solutions such as management consulting. Having attained leadership position in IT outsourcing, Indian firms now seek to adopt the off-shoring model to other sectors like manufacturing, R&D, and KPO. The government in partnership with the industry is creating an ecosystem that aims to replicate the success of IT off-shoring even in the newer sectors. Going by the trends so far, the frontiers of outsourcing to India will continue to evolve. Companies that wish to remain competitive will pursue outsourcing in newer areas and domains in an attempt to leverage the numerous advantages that India offers.

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HOLISTIC APPROACHES TO BUSINESS PLANNING

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Rosabeth Moss Kanter (1990) stated that thinking across boundaries, or integrative thinking, is the ultimate entrepreneurial act. She called it holistic thinking. Blurring boundaries and challenging the categories permitted new possibilities to emerge, like twisting a kaleidoscope to see the endless patterns that could be created from the same set of fragments.

“Thinking across boundaries” when formulating business strategy is our ultimate aim. But to think across boundaries we must consider not just those psychological boundaries that exist based on our experiences but also the physical boundaries of a company—the supply-chain boundaries. In order to do this, we must first define each boundary.

A company can be defined as existing along two axes—vertical and horizontal. This terminology comes from the concept of “vertical supply chain,” which stems from the supply-chain literature and principally a definition put forward by Christopher (1992) that described upstream and downstream linkages; and from the marketing literature in the area of positioning (cf. Ries & Trout, 2000), which uses the term “horizontal integration” to denote a company’s position based on its maintenance, expansion, or contraction plans for its products or services.

The vertical axis describes the value the company generates—it buys goods or services, uses them, and in doing so creates its own products or services of higher value; for example, in moving the upstream boundary toward a supplier, we off-load more of what we do to that supplier. The upstream vertical boundary is therefore defined by what we chose to buy from suppliers. The vertical axis can be

described as “upstream” and “downstream.” Products and services flow from upstream to downstream.

The level of product or service we offer to our customers therefore defines the downstream vertical boundary; for example, in moving the downstream boundary toward a customer, we would adopt tasks previously done by that customer.

The horizontal axis describes the balance between product range and the infrastructure required to maintain, grow, or reduce that product range. Figure 36.1 illustrates the interrelationship of axes.

A company may exhibit a variety of different infrastructure depending upon the complexity of the product range. Similarly, the upstream and downstream boundaries may also be product-dependent. For example, within a

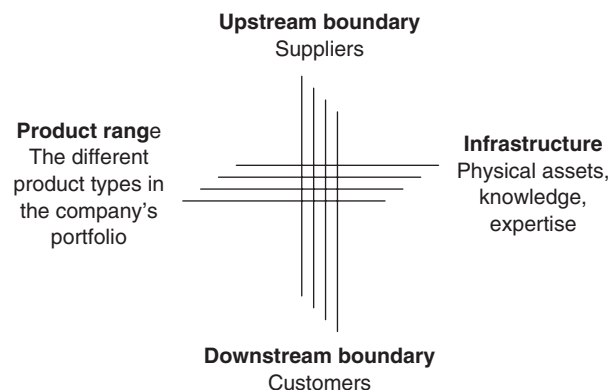


Figure 36.1 The Axes of a Company

product range, a company may choose to outsource those products that are no longer sustainable internally, while retaining those that have inherent value. Similarly, a product or service may be dropped where the intellectual property for the product no longer resides with the company or where obsolescence in infrastructure forces it. The business strategy therefore must look to strive for efficiency and effectiveness in balancing the vertical and horizontal features.

This chapter overviews the key tools and techniques used to help define strategy in the past and considers how these tools have related to the concept of axes. In determining what constitutes a strategy tool, the author concurs with Knott (2006), who describes strategy tools as guides to thinking and starting points for structuring activity. The chapter then goes on to explain how the axes concept can be used to facilitate holistic business planning in the 21st century by considering strategic choices and how they apply at an operational level.

THEORY

Business planning tools in general have been criticized because of the lack of analytical techniques employed and the failure to keep up with the dynamism of business markets. For example, tools that were designed for production industries in some cases have little relevance to new service business models both in statistical pedigree and in language relevance. Authors have added to these criticisms by critiquing the tools' detachment from practical experience and their short-term, cost-reduction approach. The inference being that to ensure business sustainability one cannot rely on myopic decision making. Later debate on the subject has been concerned with the problem of "framing," where the tool itself incorrectly generates a focus on some elements of a company's strategic environment at the expense of others.

Later contributors to the field appeared to address some of these issues with a different approach. Porter's (1998) value chain, and the concept of relating specific activities to competitive position remains a useful tool for addressing the vertical axis and infrastructure boundary of the firm, but cannot address fully the company position on product range. Likewise, it can be used to identify potential sources of differentiation on the downstream vertical boundary, but cannot by virtue of its scope inform where the boundary should be, that is, how far a company should go in taking on activities previously undertaken by its customers.

The Porter approach of trading cost with differentiation does not directly help practitioners with risk decisions associated with boundary changes, nor does it help the user in comparing radically different business models including Web-based models such as virtual supplier networks and technology-based services.

Where competitors are moving downstream, a comparison of the traditional forms of activity is insufficient. A comparison of resources becomes necessary because com-

panies are increasingly selling a combination of products and services.

Porter's value chain cannot take account of the change in the range of relationship types possible with suppliers—technology licensing, cross-licensing, factory-in-factory arrangements—where a support activity is abdicated to a supplier. In these instances, the boundary of the firm, and who obtains value from it, is in effect blurred.

Existing tools also do not appear to recognize at a strategic level the risk-sharing approaches advocated in collaborative forms of working, despite theory on the importance of this aspect having been available for 20 years. Those interested in this area should consult Butler and Carney's (1983) work that introduced "managed market theory." Butler and Carney's work in effect incorporated trust and interaction complexity into "transaction theory" first outlined by Williamson (1981).

There is, then, still a lack of practical tools that marry the soft issues of trust—made manifest in the relationships at boundaries—and the relationship diversity, with the hard performance-related issues of strategy formulation. Further, conventional tools addressing the vertical-integration axis, appear to address, "invest and make," "make," "divest and buy," but generally omit the "invest and rent" option, where a company chooses to rent external capacity while developing capability of its own.

This chapter describes research undertaken to explore and develop the use of holistic tools to address these issues in strategy formulation.

METHODS

The chapter starts by providing an overview of commonly used strategy tools and showing how they relate to the multiple axes concept. It then progresses to show how this has informed new tool specification by the incorporation of useful approaches and how a subsequent holistic tool was developed. The results of six case studies are overviewed that outline the need for new tools and finally the development of a tool is described and a prototype tool is introduced.

The Key Literature

Core competence (Prahalad & Hamel, 1990), activity (Porter, 1998) and resource-based views of the firm (Barney, 1996; Peteraf, 1993; Wernerfelt, 1984) now feature largely in the management literature in formulating business strategy. Theorists now largely concur that business people wishing to form effective strategy must understand their companies in terms of competence, resource, and activity. It is by doing this that they are able to address more fully decisions in the upstream and downstream vertical axis (buy/make and adopt), and horizontal axis (product range, required skills, and infrastructure).

More recently, other aspects have been considered worthy of consideration in formulating strategy. Fine addresses

the “clock speed” of an industry in which a business is to operate. Novak and Eppinger (2001) consider complexity. Beach, Muhlemann, Price, Sharp, and Iterson (1999), Christensen (2001), and Ramdas and Spekman (2000) consider the innovative or flexible product nature to be important. This view is further explored by Fischer (1997) who contests that functional demand requires an efficient process or supply chain while innovative demand requires a responsive process.

The implication from all this work is that certain product types may be better suited to particular vertical and horizontal axis decisions than others. For example, a low-complexity product with low margins designed and manufactured by a company with high infrastructure costs may be outsourced. Comparatively, a highly complex product with high margins and high infrastructure costs may have value added by a strategy that attracts services from a customer, thereby adding further value to itself.

Hayes, Wheelwright, and Clark (1988) stated that the most important step in developing and pursuing an integration strategy is to identify the capabilities that are required to support the firm’s desired competitive advantage. In formulating its strategy, a firm must position itself along two key dimensions—one relating to products and the other to production processes. This approach assigns dimensions to decision making along one axis only—horizontal.

Hill took this theory further by pointing out the importance of process positioning, which considers the width of a firm’s internal span of process, the degree and direction of vertical-integration alternatives, and its links and relationships with suppliers, distributors, and customers. The introduction of directional vertical integration and the incorporation of customers and distributors are in line with the concept of the horizontal axis having a relationship with both the upstream and downstream vertical axis.

Lehtinen (1999) pointed out that the literature on process positioning had until this point concentrated on the problems of make or buy decisions (upstream vertical), largely ignoring the managerial questions, which followed from the changes in a firm’s span of process (product range). He further pointed out that changes in the span of process would invariably lead to a change in the total management task within a business and that changes to span of process would bring corresponding changes in the task of manufacturing management (infrastructure). This further reiterated the relationship between the vertical and horizontal axes.

Table 36.1 overviews the key tools available and how they relate to the vertical and horizontal axes.

It would appear therefore that there is a case for defining the interrelationship of axes more fully. Consideration of the interrelationship of axes becomes necessary when attempting to understand the cost implications of strategic decisions. This is evidenced where increased outsourcing of components or services formerly done internally has resulted in unexpected cost increases as overhead is carried by fewer functions/products. Decisions made in the upstream vertical axis can therefore affect infrastructure decisions.

It would appear then that the task of formulating business strategy is often fragmented in as much as current tools and business models address vertical integration with product integration or more recently, product and infrastructure integration. Rarely do tools address all aspects in a holistic manner. Where tools, processes, and frameworks are in evidence, they are high level, axes-specific, or unaccommodating, to current business challenges.

Based on the literature then, strategy formulation needs to embrace product range, upstream and downstream supply decisions, and infrastructure needs. A holistic tool must allow a company to look at itself from both the resource and activity perspectives. It must handle risk and supplier-dependency issues in terms of market uncertainty and product nature. It must reflect the interrelationships of existing activities and resources as well as the interdependencies of decisions made and their effect on the overall aim. Finally, it must accommodate new and emerging business models.

Case-Study Contextualization

In order to investigate the need for such a tool, six case studies were conducted to investigate formal and intuitive tools currently in use for formulating manufacturing-business strategy. The companies were selected based on whether they were supply-chain leaders or followers. Four companies were leaders and two were followers.

A typical case study company was based in the southeast of England, had 200 to 300 people in manufacturing, and 500 people in the business unit. The companies were either original equipment manufacturers or first-tier suppliers and produced electromechanical products.

A semistructured interview approach was used to confirm the business context and to explore product integration, infrastructure integration, and upstream and downstream vertical integration. Open discussion was used to understand company priorities and whether a holistic tool that addressed the interrelationship of axes would be of use.

The study revealed that the product-integration management varied from being purely reactive and historical to proactive management of new product development, introduction, and withdrawal. Few formal tools were in evidence and decisions were largely based on experience and intuition. Infrastructure management was mainly reactive, with tools only used in the process-improvement context. However, one company did use a form of technology road mapping. Downstream vertical-integration management showed little evidence of formal tools other than in the area of service-level measurement. There was differing awareness of the concept of moving the downstream boundary, for example, taking on additional activities previously done by the customer. The trend to move proactively downstream, which is now being evidenced in the literature, did not appear to be important for the companies in the study, which ranged from low complexity, high margin, low volume to low complexity, low margin, high volume. The companies

Table 36.1 Key Authors in the Field and Whether Their Processes/Tools/Frameworks Consider Both Axes Within a Business (shaded entries show consideration of vertical and horizontal axes)

Author	Year	Planning process, framework, or tool relates to			
		Horizontal axis		Vertical axis	
		Products	Infrastructure	Suppliers	Customers
Jaunch and Wilson	1979	yes		yes	
Porter	1980, 1998		yes	yes	yes
Butler and Carney	1983		yes	yes	
Hax and Majluf	1983, 1992	yes		yes	
Wernerfelt	1984	yes	yes		
Gregory	1986			yes	
Burstein and Pearson	1990	yes	yes		yes
Ettlie and Penner-Hahn	1990	yes	yes		
Hedley	1990			yes	
Jones and Clark	1990				yes
McNamee (Eds.)	1990	yes	yes	yes	yes
Venkatesan	1992		yes	yes	
Wehrich	1992		yes		
Welch and Nayak	1992		yes		
Lamming	1993, 1996			yes	
Bhattacharya, Coleman, and Brace	1995	yes			yes
Mintzberg, Quinn, and Shoshal	1995	yes			
Quinn and Hilmer	1995	yes	yes	yes	
Probert	1996, 1997, 1999	yes	yes		
Brandenburger and Valebuff	1996		yes	yes	yes
Mills and Platts	1996	yes	yes	yes	
Bessant	1997	yes	yes		
Fischer	1997	yes		yes	
Stewart	1997			yes	yes
Kee	1998			yes	
Monczka and Trecha	1998			yes	
Hayes and Wheelwright	1984, 1988	yes	yes	yes	yes
Ghemawat, Collis, Pisano, and Rifkin	1999	yes	yes	yes	yes
Hartmann	1999		yes		
Lehtinen	1999	yes	yes	yes	yes
Lonsdale	1999		yes	yes	
Mauil and Mills	1999	yes	yes		
Minshall and Garnsey	1999		yes	yes	
Vernet and Arasti	1999	yes			
Webster and Beach	1999		yes		
Jensen and Heinzl	2000			yes	
Li and Williams	2000			yes	
McDermott and Handfield	2000	yes	yes	yes	
McIvor	2000		yes	yes	
Towill	2000			yes	yes
Tschirky	2000		yes	yes	yes
Frizelle	2001	yes			
McKay and de Pennington	2001	yes	yes	yes	
Park and Krishnan	2001			yes	
Trienekens and Hvolby	2001			yes	

did, however, consider themselves reactive to big customers. The findings from the case studies were as follows:

- Few companies formally used detailed analysis tools to make decisions about firm boundaries.
- Practitioners at the least successful companies tended to focus on individual boundaries such as product range, infrastructure, upstream vertical, and downstream vertical.
- Practitioners in the more successful firms tended to think about boundaries more holistically.
- Companies wanted to move toward greater integration with their key suppliers; for example, they concentrated on the upstream vertical boundary and wanted to make greater use of analytical tools to achieve their goals.
- The least successful companies were the most ambitious
- A holistic tool would be welcome but it should be easy to use (perhaps a workbook), and preferably facilitated to ensure focus and leadership.

When introduced to the idea of thinking about a company in terms of its boundaries, the case-study companies agreed that such a concept would be useful. Therefore, the need for “joined-up thinking” appeared to have some validity based on the case studies and literature.

A valuable aid to practitioners would therefore be a tool that would help them take a holistic view of their supply-chain practices, while at the same time considering the impact that the external environment and internal capabilities would have on competitive position over time. Furthermore, such an aid should be documented in a short guidebook and should be appropriate for use within the company with appropriate facilitation. To this end, a tool specification was developed.

Holistic Tool Specification

The purpose of a holistic tool would be to help organizations realize competitive supply-chain positioning by considering all relevant forces influencing their business. To achieve this, the tool would aid practitioners during the ongoing strategic design of their supply-chain strategy and help them to analyze the impact of change. Through this understanding, the practitioner should be able to decide which activities the organization should retain in full, which it should expand/adopt in support of customers’ needs, and those where greater integration with suppliers would be preferred, or where integration with customers could be the most value-adding option.

APPLICATIONS: TOOL DEVELOPMENT

Using current theory on competitive positioning, literature-derived tools, and processes were consolidated into a fledgling process for validation with industrial collaborators. The results of which could be used to form the basis of a useable tool for strategy formulation.

The fledgling process became the topic of academic debate over many months and the original process was re-iterated many times to ensure axes interactivity and efficient process flow. The logic within the process is based on the use of appropriate tools for each axis (see Table 36.1). The inputs and outputs of these tools were then analyzed and the frequency that inputs were used sequenced the new process. For example, the need to define product groups and the company’s product/service competitive criteria would come early in a workshop process, because they were consistently required in later stages of axes integration.

Once process stages were sequenced, it became apparent that a process would need to be defined in two phases, the first of which would be a preparation phase where relevant company information was mined. Product information, current performance levels against competitors, and company skills and infrastructure would need to be defined and agreed upon. The second phase would take this information and apply developed methods to review the firm’s boundary decisions in terms of infrastructure, upstream and downstream vertical decisions, and product range. It became apparent that the evolving process could be described in terms of a Strategy Wheel.

The Strategy Wheel

The Strategy Wheel describes the order in which issues are considered in the workshop process. It is possible to start the process at the point of greatest relevance to the company. For example, companies such as the case-study companies, which wished to address the upstream vertical boundary (supplier integration), could start the process there and then move on to the downstream boundary, product range, and then infrastructure. However, it is necessary to

- complete the wheel, and
- undertake the necessary preparation for the steps used.

It is also assumed that companies using the Strategy Wheel would have a manufacturing or service history. A start-up company wishing to provide a service with

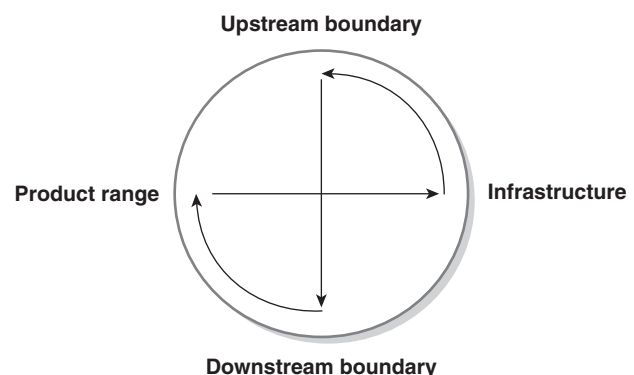


Figure 36.2 The Strategy Wheel

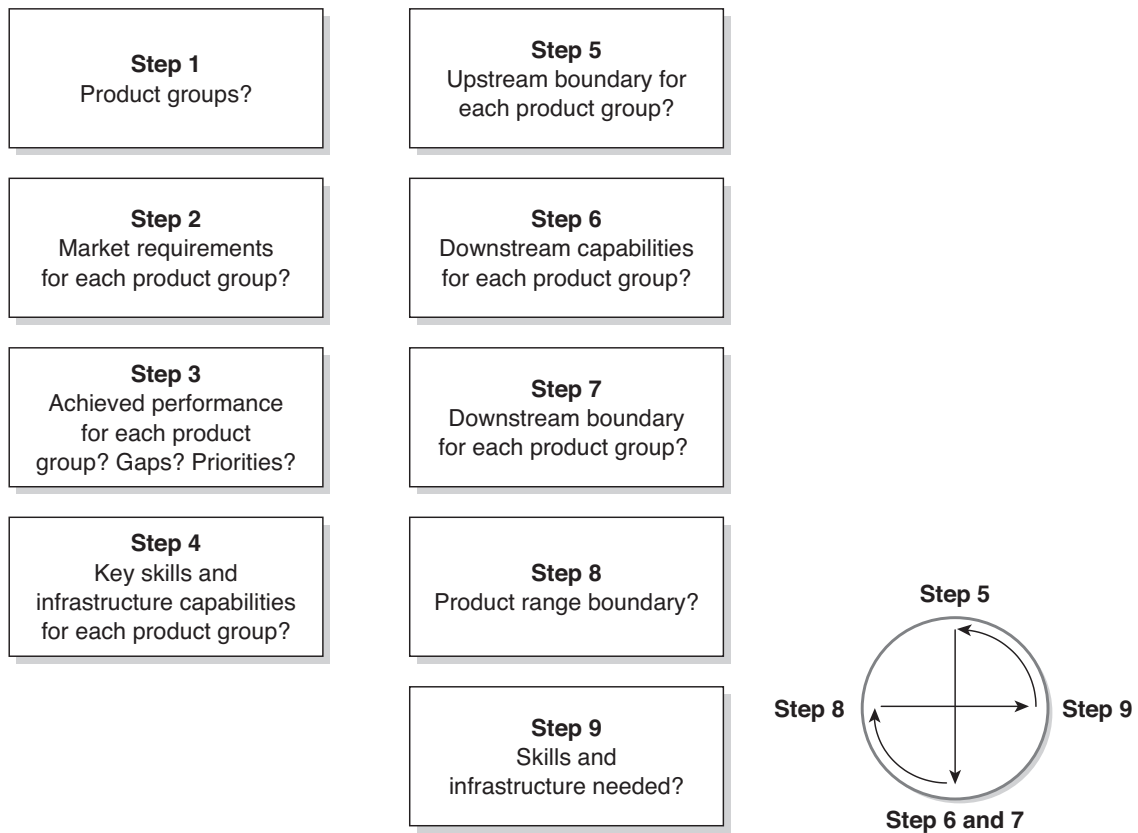


Figure 36.3 The Strategy Wheel Process

no product history may require an updated form of the process. It is also envisaged that the wheel be applied by small- to medium-sized companies as opposed to large companies because of the product range complexity, availability of data required, and need for effective workshops; although, larger companies wishing to apply this to autonomous business units may also find it useful. The Strategy Wheel image serves as an aide-mémoire and reiterates the holistic nature of strategy formulation. The simplicity of the image allows it to be applied to a variety of business models, thereby countering some of the criticisms of earlier tools which have been critiqued for failing to be dynamic enough, myopic, or presented in a way that “frames” or skews outcomes to predefined outcomes. With this approach, the company itself can decide the degree of focus based on its own unique product, infrastructure or supply-chain requirements.

Figure 36.3 illustrates the process that applies the Strategy Wheel concept.

In line with the user requirements defined in the case studies, the process needed to be documented in a short guidebook and be appropriate for use within a company with appropriate facilitation. A two-day workshop with an industrial collaborator helped to validate the approach and fine-tune the workbook. The validated process of applying the strategy wheel is now described. Phase 1 describes the preparation for a workshop. Phase 2 describes the workshop steps in line with the Strategy Wheel approach.

Phase 1: Preparation—Data Mining

Data collection requires the company to gather company and market information as described in Table 36.2. Table 36.2 also shows the types of functions that should be involved at each stage of the Strategy Wheel process and the type of data and know-how required of those functions. Function descriptions are advisory only. Individual companies may have different functional names for the same sorts of activity.

Cross-functional involvement ensures a robust view of the company and eventual acceptance of change based on decisions made. However, a full communication plan should be developed in conjunction with the outcomes of the process.

Phase 2: The Strategy Wheel Process

The Strategy Wheel process is best conducted as a 1 to 2 day facilitated workshop. Professional facilitation is recommended. The facilitator’s role is to ensure that the process is followed to an appropriate timetable, that all workshop participants are fully involved, to recap the findings of each workshop, and to ensure that all decisions are recorded.

Steps 1 to 9 of the Strategy Wheel process are now described. “Participants” refers to a selection of personnel as defined in Table 36.2 who participate in a workshop.

Table 36.2 The Functions and Data Required for Each Stage of the Strategy Wheel Process

<i>Step</i>	<i>Information needed</i>	<i>Who should be involved in data gathering and subsequent planning activity</i>
1 1 1 2 3	What do we make/provide? Turnover and growth for each product? For each product, why do customer buy from us? How do we perform against customer expectations? How do our main competitors perform?	Direct customer-facing: Marketing, sales, business management, business development
4	Competencies, key infrastructure, know-how for what we offer customers?	Other customer-facing: design, development, test engineering, quality, customer support
4,5,6	Important facilities, processes, competencies, abilities, know how?	Systems: processes, IT, logistics, finance, HR Product related: purchasing, research, design development, engineering manufacturing
6,7,8,9	New products and services, current business priorities	Direct customer-facing: marketing, sales, business management, business development

Step 1: Understand Product Groups and Define Competitive Criteria

The aim of Step 1 is to understand the different competitive situations of each product group and their relative importance to the company. The objective of the activity is to understand the product-group priorities now and in the future and to identify competitive criteria for each group.

The method used to do this is as follows. Product groups and competitive criteria are decided by participants. Competitive criteria is then ranked as to importance for each product group. This activity often presents a second opportunity to recognize product groups that are similar and perhaps to consider consolidating similar groups where appropriate. The importance ranking is assigned for the present and for the future based on turnover or contribution.

Step 2: Understand Market Requirements

The aim of Step 2 is to capture formally the current position for each product group in terms of market requirements. The objective is to achieve a common understanding of detailed market requirements for each product group. The method used to do this is as follows. Having already de-

fining product groups and important competitive criteria for each, participants are asked to give their perceptions of current market requirements based on their own knowledge and experience. Participants are asked to do this separately without conferring, and then the facilitator consolidates a consensus view. Common competitive criteria are delivery time, delivery reliability, price, investment risk, design flexibility, volume flexibility, responsiveness, innovativeness, and conformance/quality. Other additional criteria may have been identified in Step 1.

Step 3: Understand Achieved Performance in the Market and Against Competitors

The aim of Step 3 is to capture formally the current performance and that of competitors for each product group. The objective is to achieve a common understanding of company performance and threats. The method used is as follows. Participants are asked to give their perceptions of current market performance based on their own experience. Participants are asked to do this separately without conferring and the facilitator captures the consensus. Participants are then asked to consider the major competitor's performance for each product group using the competitive criteria defined earlier. Once complete, the facilitator captures the consensus position for the group

for both the company's current market performance and the competitors' performance.

The facilitator can then compare the market requirements from Step 2 with the output from Step 3. Gaps can be identified and translated into whether the company leads or lags the market/specific competitors with respect to performance criteria. Figure 36.4 shows an example comparison of Steps 2 and 3.

Step 4: Relate Company Skills and Infrastructure to Performance Gaps

The aim of Step 4 is to relate the company skills and infrastructure to the performance gaps identified in Step 3 and to define ownership risk associated with critical skills and infrastructure. The objective is to achieve a common understanding of performance gaps in terms of threats and opportunities and their relationship to important skills and infrastructure. This exercise should define critical skills and infrastructure priorities and thereby allow an appreciation of how it may lose its lead or monopolize an advantage.

The method used to do this is as follows. The facilitator overviews the critical performance criteria and performance gaps. The facilitator then reviews the critical skills and

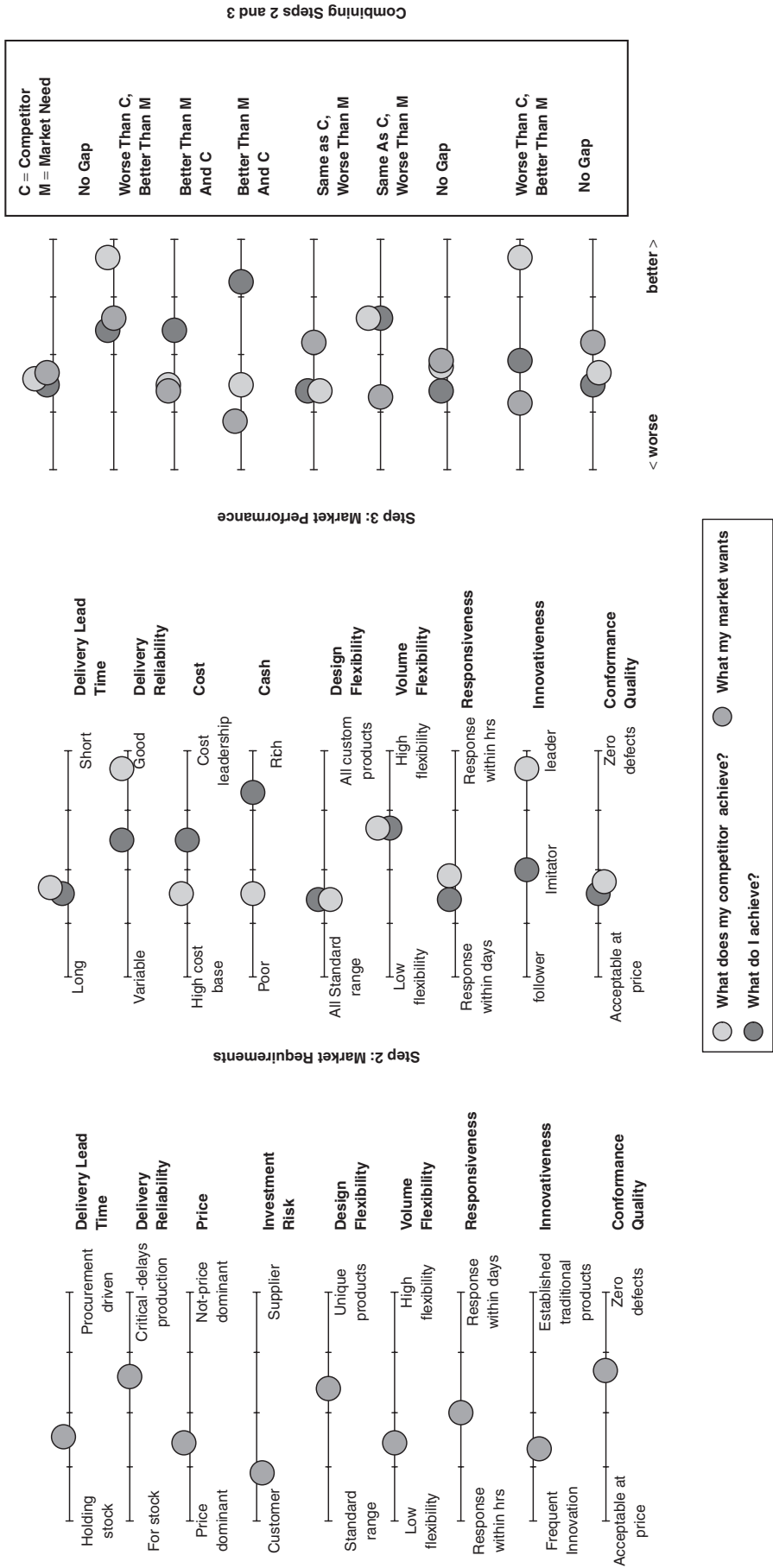


Figure 36.4 Evaluation of Company Performance During Steps 2 and 3 of the Strategy Wheel Process

infrastructure identified in Step 1 in this context. Natural groups of skills and infrastructure are given common headings. Skills and infrastructure are then weighted by the groups as important, very important, or essential.

By using a scoring system, key skills, and infrastructure can be prioritized. The resulting list can then be used during strategy implementation.

The groups of skills and infrastructure are then revisited to understand whether they actually reside in company control (captive) or outside company control (uncaptive): they are with contractors or partners.

An exercise can then be undertaken to understand the risks associated with each scenario. Captive risk may be due to poor standards with respect to “best in class,” aging manufacturing infrastructure or personnel, high levels of tacit knowledge, or known skills shortages in the market. Uncaptive risk may be due to a supplier threat, the prospect of poor supply continuity, or allegiances between suppliers and competitors.

Each skill and infrastructure group can then be explored in relation to risk and documented for further use.

Step 5: Explore the Impact of Moving the Upstream Boundary to Reduce Risk

Having defined key skills and infrastructure with relation to competitive criteria, the aim of Step 5 is to understand the impact of moving the upstream boundary to reduce risk. The objective is to highlight areas where activities currently done by suppliers are better done by the company, and where activities done by the company are better done by suppliers. The method used is to consider each skill and infrastructure group in terms of know-how, assets, and materials and services and explore whether moving the boundary would improve or degrade the competitive performance. Again, a scoring system can be used to determine whether the impact of moving the boundary would be positive or negative. Wider implications of moving the boundary can also be captured at this time, for example, loss of economies of scale, implementation costs, and so forth.

Step 6: Explore the Impact of Moving the Downstream Boundary to Improve Performance

Having considered the implication for moving the upstream boundary with respect to competitive criteria, Step 7 defines the impact of moving the downstream boundary and explores the potential for moving it in terms of systems integration, operations integration, value-added services, and investment. The objective of the activity is to achieve a common understanding of major customer needs in each area and any gaps between customer requirements and company current/potential performance. Gaps in a downstream sense may be considered as opportunities or threats in that competitors may be able to meet a particular customer’s needs better than you can.

Using participant input, consideration is given to the company’s downstream skills, capabilities, and resources. These are then classed as (a) in use, (b) not in use but have ability, or (c) not in use and would need to procure.

Participants must then explore what customers value; for example, what the customers can do themselves and what they are looking to outsource. This is a reactive approach. A proactive approach would entail keeping abreast of customers’ skills, captive risk, and market needs in order to preempt a customer’s decision to move upstream boundaries.

Once customer needs and in-house capabilities are defined, possible additional services can be identified.

Step 7: Prioritisation of Downstream Skills and Infrastructure in Terms of Possible New Services

The aim of Step 7 is to prioritize the downstream skills and infrastructure in terms of identifying possible new services. The objective is to understand the impact on existing product performance of moving the downstream boundary. Once this is known, downstream possibilities can be prioritized.

Each downstream skill/infrastructure is considered in turn as to whether its provision to the customer would be of benefit to the company; for example, it should be considered whether it would provide greater influence over the customer’s product and your own company’s existing product or whether it would have a negative impact such as drawing resources away from important existing products.

For each skill/infrastructure, participants can decide whether there will be a positive impact, a very positive impact, a negative impact, or a very negative impact. These results can then be used to prioritize skills and infrastructure for downstream use. Skills and infrastructure that are considered to have an overall negative impact should be removed from the potential downstream offering. The remaining downstream skills and infrastructure are ranked as to whether they will have significant impact on competitive criteria in the areas identified as gaps. Effort should then be concentrated on downstream skills and infrastructure that are highly prioritized.

There is an underlying assumption here that upstream and downstream competitive criteria are consistent. Depending on a company’s position in its supply chain and the complexity and number of product groups supported, this may not be the case. In such an event, the participants should consider repeating Step 1 for the downstream boundary once product/service opportunities have been identified.

Step 8: Exploring the Impact of Newly Prioritized Skills and Infrastructure on the Expansion of Existing Product Range

The aim of Step 8 is to reconcile the newly prioritized skills and infrastructure for both upstream and downstream boundaries with expansion of the existing product range. The objective of this step is to consolidate findings for upstream and downstream skills and infrastructure so that

they may be used in expansion decisions. The method used here is to simply discuss products that are candidates for expansion, capture key skills and infrastructure required, and compare this with the outputs of Steps 4 and 7.

The group then considers each potential new product and whether there is a fit with existing prioritized skills and infrastructure. If there is a fit, then this product is a candidate for expansion. If there is not a fit, then this product should not be a candidate for expansion.

Step 9: Defining Which Skills and Infrastructure Need to Change

Having established upstream boundary, downstream boundary, and the product range possible, the process now sets out to identify skills and infrastructure that need to

change. The objective of this step is to consolidate prioritized skills and infrastructure from Step 8 and to place them in a matrix of importance/performance.

Each skill/infrastructure is recapped and participants decide whether the company is achieving performance excellence for each and to place it in the matrix of performance/importance. Participants are then asked to indicate in which direction it is moving. This is an opportunity for participants to share investment plans and development initiatives. Participants then consider what would be needed for the company to do better. One example of such an improvement might be to invest in manufacturing or business-process infrastructure or to bring expertise into the business by recruitment. Figure 36.5 illustrates an example of how the performance/importance grid can be used to conclude the Strategy Wheel process.

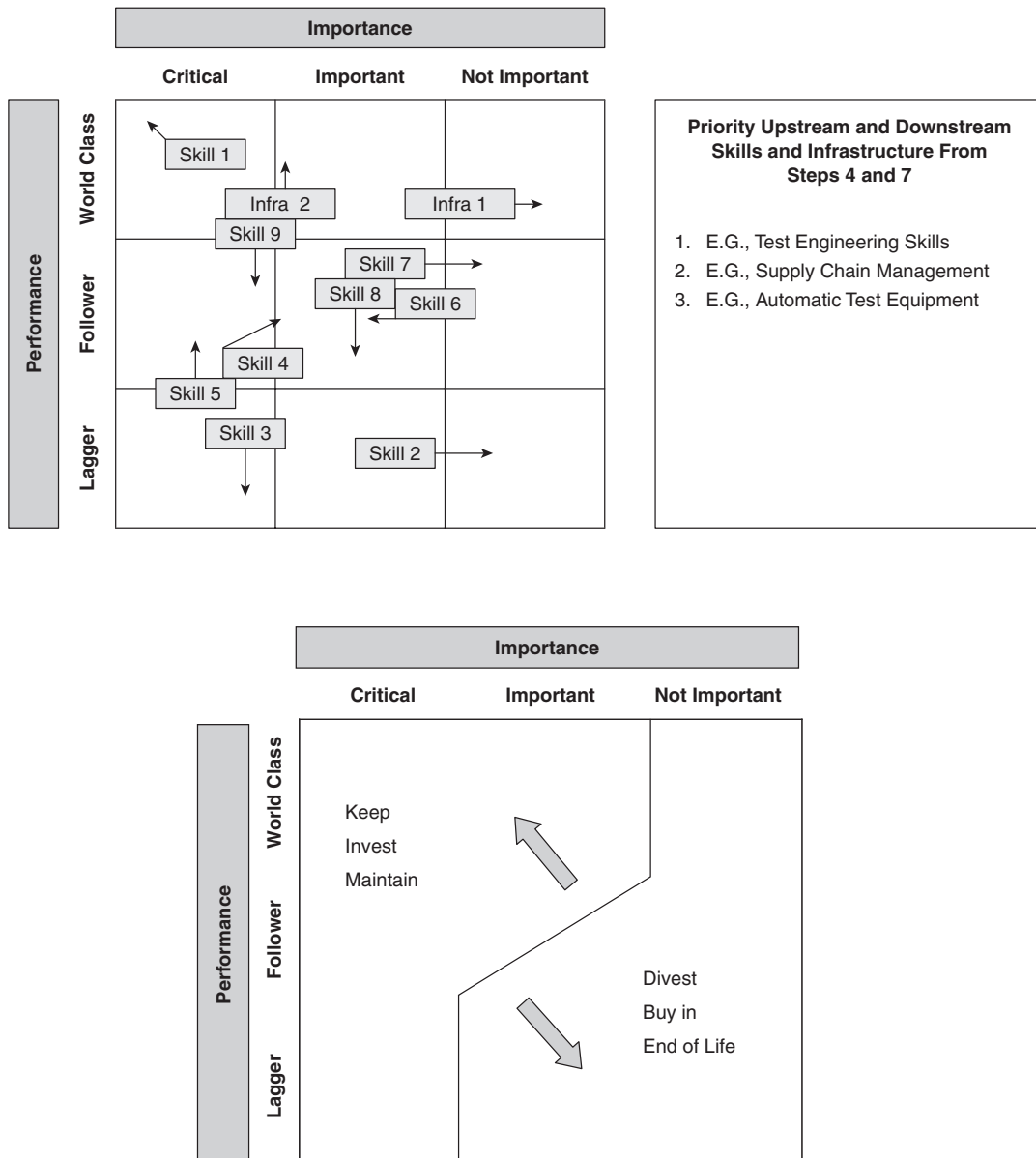


Figure 36.5 An Example of the Use of the Importance/Performance Grid to Conclude the Strategy Wheel Process

FUTURE DIRECTIONS

This process has been tested using real participants whose inputs were used to produce and revise a workbook. Practitioners who took part in the process testing completed an assessment questionnaire. This addressed the overall perceived success of the process and the value generated. The process was well received, which suggests that other companies may also find the tool and workshop process of use.

Process efficiency requires facilitation. Facilitation ensures that the required data mining has taken place, ensures that the outputs of each stage correctly inform the inputs of following stages, and ensures that all relevant issues are discussed at the appropriate points. The workbook includes preparation sheets and instruction on participant mix as well as pro forma worksheets for each step of the Strategy Wheel process.

The Strategy Wheel on which the process is based serves as a memorable image that encourages companies to think in a “joined-up” context.

SUMMARY

This chapter has described how a business can be described along two axes—vertical and horizontal—and how the interrelationship of these axes is crucial in relating strategic decisions to operational practicalities (see Figure 36.1.) The chapter overviews key strategy tools in terms of whether they relate to the axes model, and Table 36.1 shows the tools used to inform the development of a holistic process. This table shows how case-study feedback and literature review were used to develop a useable tool to assist companies in strategic decisions that affect their supply-chain positioning. The process developed is summarized in the Strategy Wheel in Figure 36.2, which is a simple but effective tool that acts as an aide-mémoire for business planning. It can be used by business owners as a reminder of the interrelationship of business issues or by business advisors and academics to demonstrate the same: it shows clearly the holistic nature of the decision-making process.

Figure 36.3 describes the steps that need to be taken to review business strategy in a holistic manner and shows how these steps relate to the concept of axes. Table 36.2 shows the functions and data required for each stage of the Strategy Wheel process.

Figures 36.4 and 36.5 show how key stages in the Strategy Wheel Process can be implemented.

The process described can be applied to any business wishing to review strategy holistically or can be used by undergraduates setting out to evaluate business cases for academic output. The authors referred to in Table 36.1 should be regarded as candidates for further reading at undergraduate level.

ACKNOWLEDGMENT

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CULTURE-SENSITIVE GLOBAL STRATEGIES

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In this era of globalization, more companies than ever engage in multinational transactions, cross-border trade, international joint ventures, and mergers and acquisitions. They seek competitive advantage by accessing locations, facilities, and customers in different countries and by coordinating activities in the value chain across national borders. While economic considerations create a basis for strategic decision making when determining where, in which countries to locate research, manufacturing, supply chains, or distribution, they are not sufficient for sustainable international growth of a firm. The nature of globalization dictates additional considerations when designing and implementing corporate strategies, namely the cultural environments in different countries. If a company understands national cultures, it can increase local responsiveness to customer needs, strengthen relations with stakeholders in host countries, and develop the most effective leadership behaviors in those cultures. However, this practical approach in turn depends on the ways in which a firm perceives cultures—from an ethnocentric to a polycentric perspective—in other words, according to its cultural predisposition. Hence, international managers seek concepts and instruments that (a) incorporate cultural environments into global strategy making in addition to comparative advantage arguments and (b) imbed cultural sensitivity in the values and decisions of a multinational firm.

This chapter summarizes theoretical developments that bridge the gap between business policy and cross-cultural

studies and creates a basis for sound culture-sensitive strategies. First, it traces the emergence of the global component in strategy theory and raises awareness of the cultural dimension of international business expansion. Second, it illustrates recent developments in the behavioral sciences in response to internationalization, namely the growing interest in cross-cultural studies and comparative instruments. Third, the chapter explores implications for multinational companies (MNCs) that stem from these streams of research and attempt to bridge the gap between policy and culture. This chapter also emphasizes contributions to culture-sensitive global strategies by strategy scholars such as Howard Perlmutter, Michael Porter, Yves Doz, as well as by behavioral scholars such as Geert Hofstede, Robert House, and Robert Donaldson. We also suggest practical examples of multinational corporations such as DaimlerChrysler, Honda, Rover, 3M, Unilever, Johnson & Johnson, Nike, and Motorola that successfully capitalize on cultural differences.

GLOBAL DIMENSION OF STRATEGY

The concept of strategy has evolved from military-based frameworks to modern business concepts that interpret the direction of firms—their formation, survival, and continuing success. In ancient China and ancient Greece, political and military leaders relied on their knowledge of strategy to

gain victories, understand their enemies and the conditions of warfare, evaluate their own strengths and weaknesses, and frame plans to succeed beyond the battle to win the whole war. In the 19th century, military leaders such as Karl von Clausewitz noted similarities between war and commerce and advised transferring strategic know-how to commercial activities. In fact, business and war both involve a conflict of human interests in which large organizations compete for resources, rely on leadership, discipline, intelligence, and winning plans, design offensive and defensive moves, and consider uncertainty and danger. However, when compared to war, business competition is not a zero-sum game; it is primarily a creative rather than a destructive activity and usually is conducted in a civilized manner.

Without a doubt, prominent business leaders in the first part of the 20th century such as Henry Ford and Alfred Sloan demonstrated strategic thinking. They could visualize the future and generate innovative business models. And successful corporate managers relied on budget planning techniques in making future-oriented decisions. However, it was only in the 1960s that radical changes in competition, technology, and internationalization of the economy created the preconditions for conceptual breakthroughs in business and corporate strategy. For example, the emergence of large conglomerates generated attention to business portfolios. Rapid technological progress, along with a growing diversity of customers and markets, increased the complexity of decisions and an uncertainty about the future of firms. Internationalization shifted the focus to noneconomic strategic factors such as political risk, cultural particularities of local practices, and ethical responses to global expansion. So, advanced strategic theory with a global component became essential.

The academic community responded to these changes by conceptualizing strategy as a pattern of decisions in a company that produces principal policies and plans, defines the range of businesses to pursue, and explains the nature of contribution to shareholders, stakeholders, customers, and communities. Prominent scholars who contributed to concepts of business and corporate strategy in the 1960s and 1970s include economic historian Alfred Chandler, systems expert Russel Ackoff, analyst-consultant Bruce Henderson, and management theorist Henry Mintzberg. In economic terms, they envisioned strategy as a framework for making decisions about product/market allocations that generate economic rents or profitability in excess of the competitive norm. In management terms, strategy determined the basic long-term goals and objectives of an enterprise and the adoption of courses of action and the allocation of resources necessary for carrying out these goals. Policy (or strategy) included a vision of a multiscenario future; goals as measurable milestones of growth; environmental scanning; perceived competitive advantage as a company's edge over rivals in attracting customers and defending itself from competition forces; and prioritized growth avenues for sustaining the advantage—via organic growth or major acquisitions.

In the 1980s, Michael Porter expanded theory, combining competitive strategy with industrial organization. He focused on the structural analysis of industries—the rules of the game that all or most of the technologically compatible actors play in a particular industry, such as the behaviors of buyers and suppliers, ease of entry, rivalry, and substitution threats from other industries. The contingency nature of those rules showed that there was no single best strategy and that corporate behaviors in one area, for example the research and development (R&D)-intensive pharmaceutical industry with its reliance on “blockbuster” medical drugs, may be quite different from behaviors in other areas, such as the fragmented restaurant business or regulated, unionized, and labor-intensive air transportation.

The concepts of business and corporate strategy provided logical and structured interpretation of decision-making patterns in the national economic environment. However, these concepts could not serve as the sole source of wisdom when interpreting entries into international territories and competition in political, economic, and cultural landscapes that could be quite different from home practices. Hence, the late 20th century generated valuable contributions to the concept of global strategies.

In the past 200 years, mainstream economic discussions focused on country-based differences in international trade and on national comparative advantage driven by differences in the costs of inputs in these countries. More recent streams of firm-based international theories, namely the contributions of John Dunning, John Stopford, and Paul Krugman focus on multinational companies generating international competitive advantage. This recent discussion not only recognized differences in national business environments, but also searched for answers regarding which firms from which nations gain advantage in a particular industry. In the early 1990s, a team of international scholars led by Porter created an aggregate firm-based framework of “competitive advantage of nations” that considered major economic factors in national environments (e.g., factor endowment, demand structure, interindustry links) as well as political risk, the role of the government, and the impact of social factors (Porter, 1999). For example, this team provided cultural arguments as to why and how German firms were globally strong in manufacturing and the pharmaceutical industries; Italian firms in fashion, apparel, and leather; and Japanese firms in consumer electronics.

In terms of global environmental scanning, the impact of social capital on national industry structure and implications for businesses were also successfully explored by social historian Francis Fukuyama (1995). He emphasized that since law, contract, and economic rationality provide a necessary but not sufficient basis for economic success, they must also be supplemented with reciprocity, moral obligation, duty toward community, and trust, which are based on habit rather than on rational calculation. This research separated “low-trust” societies with preference for family-based business networks such as China, Italy, and South Korea, from “high-trust” societies with

well-developed networks beyond family or government-based networks such as Germany and Japan.

An important contribution to understanding strategic choices stemming from the diversity of national environments was made by Christopher Bartlett and Sumantra Ghoshal (1998). They explored barriers and linkages among countries and asymmetric environmental pressures on multinational companies such as global efficiencies (e.g., standardization, economies of scale), local responsiveness, and flexibility. They also emphasized consumer divergence that, in turn, depended on national cultural attributes. Different combinations of global integration and local responsiveness predefine distinctive strategies (e.g., global, transnational, home replication, multidomestic) and refer to different industries typically associated with these combinations.

A group of scholars including Pankaj Ghemawat (2007) further developed these ideas from a dyadic model (separation of markets vs. integration across markets) to a broader set of strategic responses such as adaptation, aggregation, and arbitrage and highlighted the willingness of multinationals to find innovative recombination of all three responses. Through adaptation, companies seek to boost revenues and market share by maximizing their local relevance. Through aggregation, they attempt to deliver economies of scale by creating regional, or sometimes global, operations. And through arbitrage, they exploit disparities between national or regional markets, often by locating different parts of the supply chain in different places—for instance, call centers in India, factories in China, and retail shops in Western Europe. These scholars underlined the dynamic and transformational nature of global strategy. For example, in the late 1990s, Coca-Cola made a radical turn from aggregation (strategic perception “think global—act global”) to adaptation (“think local—act local”), and then in the early 2000s to a middle ground between these two opposing approaches.

Modern interpretations of global strategy combine global efficiencies (i.e., scale, scope, and location), multinational flexibility, and worldwide learning. These strategic pillars rest on the interplay of competitive advantage of firms with the comparative advantage of countries. Uncertainty over these advantages is the outstanding feature of these advantages in global competition. To overcome uncertainties when building advantage on a worldwide basis, a multinational company must strategically balance several imperatives: economic, political, and cultural.

The *economic imperative* involves key strategic choices about configurations of activities internationally (where and in how many nations each activity of the value chain is performed) and about coordination (how to coordinate dispersed activities in different nations). The advantage rests on the ability to access more effective sources and effectively organize interactions among overseas operations. However, centralized coordination entails significant fixed costs and central authorities may miss important local trends and opportunities. Hence, realization of global benefits depends on integrative systems that provide de-

centralization of certain responsibilities to exploit these opportunities (for example, in human-resource management). In other words, the structural configuration of investment in different foreign locations and international market penetration are necessary but not sufficient preconditions for creating additional opportunities and exercising competitive leverage. Organizational flexibility is no less important in responding to local challenges and changes in the international business environment. Hence the firm seeks a balance between global integration and national responsiveness to different tastes, standards, and segmentation of local markets.

The *political imperative* involves balancing the bargaining power of a multinational company with the host political framework. Political risk in international operations traditionally has been associated with the host government’s interference in business operations. A multinational firm may experience loss because of the actions of legitimate government authorities, including involuntary loss of control over specific assets without adequate compensation such as in cases of expropriation, forced divestiture, confiscation, and the calling off of performance bonds. A reduction in the value of a stream of benefits expected from foreign operations such as nonapplicability of “national treatment,” restrictions in access to markets, control on prices, outputs, or activities, and currency restrictions may add to this list. However, certain events that create political risks derive from actions outside direct government control such as war, revolution, terrorism, strikes, extortion, and nationalistic buyers and suppliers. Hence, the political imperative is critical in making strategic decisions about entry and future presence in a particular country or group of countries.

The *cultural imperative* is the third critical component in building global strategy. Firms and other stakeholders from different cultures or cultural clusters may display visible asymmetries. The gaps in interests, ethical orientations, core values, and beliefs between home and host parties might be crucial to making sound decisions about international development and resource allocation. However, we should not assume that “different is wrong,” associating the cultural imperative with additional problems and extra costs. In many cases, multinational companies are willing and able to turn asymmetries into new opportunities and capitalize on cultural differences.

FOCUS ON CROSS-CULTURAL COMPARISONS

At the 1998 World Economic Forum, 377 CEOs representing leading global companies with combined revenues of \$2.23 trillion and with more than 8 million employees ranked “setting vision and strategy” as their top concern, “exploring mergers and acquisitions” as their second priority, and ranked “reshaping corporate culture and human behavior” as their third; ranking cultural concerns

higher than “monitoring corporate financial information” or “monitoring customer relations.” This fact illustrates crucial attention to cultural sensitivity in understanding global strategies.

In general, the term “culture” is used by social scientists to refer to a set of parameters that differentiate collectives from one another in meaningful ways. Culture is what is shared by most members of a social group, what is transferred from older (more experienced) generations to younger, and what prescribes the ways members perceive, think, and evaluate the world, self, and others. Culture may be observed at the levels of civilizations, nations, or organizations, as well as in social entities such as families, professional associations, and communities.

Civilizations are the highest cultural groupings of people. According to modern studies such as Samuel Huntington’s research, it is far more meaningful now to group countries, not in terms of their political or economic systems or in terms of their level of economic development, but rather in terms of their culture and civilization (Huntington, 1993). The most important conflicts of the future will occur along the fault lines separating civilizations from one another. Western, Confucian, Japanese, Hindu, Slavic-Orthodox, Latin American, and African civilizations are differentiated from each other by history, language, tradition, and religion. The people of different civilizations have different views on the relations between God and man, the individual and the group, husband and wife, parent and child, and the relative importance of rights and responsibilities, liberty and authority, equality, and hierarchy.

Cultural differences at the nation/country level are most critical to international business. Historically, people were separated by national boundaries and absorbed values, beliefs, and artifacts of a particular environment. In a broad sense, national (societal) culture is primarily the values and practices that characterize a particular country. Culture can be manifested in dress, food, gestures, manners, practices, beliefs, norms, standards, perceptions, attitudes, priorities, folktales, proverbs, idioms, and so on. It allows people to communicate with others through a common language, makes it possible to anticipate how others in society are likely to respond to one’s actions, and provides standards for distinguishing among what is right or wrong, beautiful or ugly, reasonable or unreasonable, tragic or humorous, and safe or dangerous.

Multinational companies analyze cultures, identify cultural differences, and incorporate this information into policy decisions. However, it was not until the 1970s that social scientists responded to multinational companies’ demands for such measuring instruments. For example, information giant IBM contracted the team of scholars led by Dutch sociologist Geert Hofstede to analyze matched populations of employees in its foreign subsidiaries and recommend a comprehensive-yet-simple set of cultural dimensions. The IBM data was compiled from answers to 116,000 survey questionnaires about employee values and perceptions of work situations. This team revealed a structure consisting of four largely in-

dependent dimensions of differences among national value systems labeled power distance (large vs. small), uncertainty avoidance (strong versus weak), individualism versus collectivism, and masculinity versus femininity.

This four-dimensional model of national culture differences has served as a useful framework for comparing and clustering cultures and applying results to managerial decisions. For example, follow-up research conducted by Nikolai Rogovsky and Randall Schuler (Rogovsky & Schuler, 1997) found that variations in work values related to desirability of high income and job security were explained by cross-cultural differences. This suggested that multinational companies use different compensation and benefit packages in different countries: higher level pay-for-performance compensation and limited benefit packages in low-uncertainty-avoidance cultures versus lower level skill-based or seniority-based compensation and generous benefit packages (including substantial severance pay and easy procedures to withdraw money from pension plans) in high-uncertainty-avoidance cultures. Following the same logic, since the variance in the importance of flexible working hours was largely explained by the dimensions of uncertainty avoidance and masculinity, one could suggest using flextime more widely in low-uncertainty-avoidance countries or in highly masculine countries. The findings also suggested that autonomy was significantly more highly valued and, therefore, a better motivator in low-uncertainty-avoidance, low-power-distance, low-masculine, and highly individualistic cultures.

Empirical research such as Harry Barkema and Freek Vermeulen’s (Barkema & Vermeulen, 1997) shows that differences in cultural backgrounds cause problems in joint ventures but some Hofstede-type differences (like uncertainty avoidance and long-term orientation) are more disruptive than others and more difficult to resolve than differences about power distance, individualism, and masculinity.

The most recent fundamental research on cultural differences, the Global Leadership and Organizational Behavior Effectiveness (GLOBE) research, was conducted in 62 countries by 170 social scientists in the 1990s (Chhokar, 2007; House, 2004). GLOBE helped to further define cultural configuration of societies and predict cultural and behavioral discrepancies when representatives of these societies interact in organizations. The central research proposition was that attributes and entities that distinguish a given culture from other cultures were predictive of the practices of organizations of that culture and predictive of the leader attributes and behaviors that were most frequently enacted, accepted, and effective in that culture. GLOBE research operationally measured societal and organizational cultures by assessing questionnaire responses from 17,300 middle managers in three industries (telecommunications, food processing, and financial services) with respect to (a) the values they endorse and (b) reports of practices of entities in their societies. Cultural values and practices were measured on a seven-point response scale with respect to nine cultural dimensions that display high

within-culture and within-organization agreement and high between-culture and between-organization differentiation:

- Institutional Collectivism (degree to which organizational and societal norms and practices encourage and reward collective distribution of resources and collective action)
- Group Collectivism (degree to which individuals express pride, loyalty, and cohesiveness in their organizations or families)
- Gender Egalitarianism (extent to which an organization or society minimizes gender-role differences)
- Assertiveness (degree to which individuals in organizations or societies are assertive, confrontational, and aggressive in social relationships)
- Power Distance (degree to which members of an organization or society expect and agree that power should be unequally shared)
- Performance Orientation (extent to which an organization or society encourages or rewards group members for performance involvement and excellence)
- Future Orientation (degree to which individuals in organizations or society engage in future-oriented behaviors such as planning, investing in the future, and delaying gratification)
- Uncertainty Avoidance (extent to which members of the organization or society strive to avoid uncertainty by relying on social norms, rituals, and bureaucratic practices to alleviate the unpredictability of future events)
- Humane Orientation (degree to which individuals in organizations or societies encourage and reward individuals for being fair, friendly, generous, caring, and kind to others)

The GLOBE project benchmarked countries on these dimensions and clustered countries with high within-culture agreement and high between-culture differentiation. For example, Switzerland and Singapore were among the highest and Russia and Venezuela among the lowest on Performance Orientation; Hungary and Poland were among the highest and Kuwait and South Korea among the lowest on Gender Egalitarianism; Sweden and Japan were among the highest and Germany and Greece were among the lowest on Institutional Collectivism; Morocco and Nigeria were among the highest and Netherlands and Denmark among the lowest on Power Distance. These rankings help to better understand cultural distance and sources for cultural friction among national environments.

Hofstede's (1980) typology, GLOBE, and classifications developed by Fons Trompenaars, Harry Triandis, and others helped measure cultural distance and assemble countries with statistically sound similarities into large clusters (Anglo, Germanic, Nordic, Latin European, Latin American, Eastern European, Confucian Asian, South Asian, Middle Eastern, and Central and South African). For example, cultural similarities stemming from the British colonial system (law, language, religion, traditions, etc.), explain certain attitudinal and behavioral similarities in the Anglo cluster that includes the United Kingdom, Canada, Australia, New

Zealand, South Africa, and the United States. The practical value of clusters for multinationals is the potential standardization of certain activities and management processes (such as human resource management) for those countries that display similarities on cultural scales.

Multinational companies may learn important lessons from these comparative frameworks. First, cross-cultural research provides a deeper understanding of host cultures as well as of home cultural environments. Second, multinational companies' managers acquire instruments for detailed comparisons of cultures and cultural clusters. Third, these managers generate important arguments for strategic decision making, including careful selection of cultural obstacles and cultural sources of competitive advantage in the global setting, international human resource management system and selection of expatriates, and perceiving dynamic change in resource and customer bases.

CULTURAL PREDISPOSITION OF A MULTINATIONAL FIRM

The literature indicates that predictions based on cultural distance at the societal level should be made with great caution to avoid oversimplification by directly associating multinational companies' cultures with the cultures of their home countries. In particular, it is not advisable to look at congruence in cultural values and then predict that high congruence would necessarily lead to competitive advantage unless one first understands those companies' cultural predispositions.

Cultural predisposition stems from a multinational company's perspective on home culture relative to foreign subsidiaries' host countries' cultures. Classical typology reflecting a company's cultural configuration was developed in the 1980s by scholars such as Howard Perlmutter and Balajai Chakravarthy. They defined the distinct ethnocentric-polycentric-regiocentric-geocentric (EPRG) profile of a multinational company indicating whether, in international operations, it is primarily driven by home country, host country, regional, or global cultural perspectives (Chakravarthy & Perlmutter, 1985). When strategic decisions worldwide are guided by the values and interests of the parent company (headquarters), assuming that "what works at home will work abroad," such a multinational company follows *ethnocentric* orientation. Strategic manufacturing, marketing, and personnel decisions in such a company are typically made at headquarters with little influence from country subsidiaries. When decisions in foreign subsidiaries are clearly tailored to suit the cultures of the countries where the company competed and managers "run a subsidiary as an independent company," such a multinational follows a *polycentric* orientation. In strategic decisions about manufacturing, marketing, or personnel at the country level, these managers definitely consider local cultural configuration. *Regiocentrism* is a predisposition to blend the interests of the parent with that of the subsidiaries, at least on a lim-

ited regional basis. And multinationals with a “worldwide outlook” that try to integrate diverse subsidiaries through a global systems’ approach to decision making follow *geocentric* orientation.

With the growing awareness of global ethics and the application of a stakeholder model to strategic behavior, multinational companies have been paying more attention to behavior on a continuum between two extremes. These ideas were further developed by scholars such as Thomas Dunfee (2003) and Thomas Donaldson (1996). On the one hand, *cultural relativism* dictates that no culture’s ethics are better than any other’s and therefore, there are no international rights or wrongs. This extreme type tolerates bribery, cheap waste dumping in developing countries, exploitation of weak health and safety standards, or lack of civil society standards. On the other hand, *ethical imperialism* directs company managers to do everywhere exactly as they did at home. It disrespects cultural diversity under a banner of global ethical uniformity and dictates a single truth in decision making by imposing ethical standards from a home country on a host country. Neither of these extremes proves to be effective in a modern interrelated world. A realistic approach between these extremes at least requires respect for core human values, respect for local traditions, and the belief that context matters when deciding what is right or wrong in international operations.

The typology of culture-sensitive, ethical behaviors includes corporate strategic orientations such as *imperialist*, *chameleon*, *nationalist*, and *opportunist*. The corporate *imperialist* derives its own values internally from its history and organizational culture and relies on an integrated, centralized, and unified corporate code of conduct. These norms are widely accepted by all global subsidiaries and emphasized in training and development of company employees. Multinationals of this type, such as Citicorp, have strong ethics programs, committed personnel, transparent reputations, and integrated organizational culture but face problems in overriding local cultural practices, often losing competition to more flexible rivals. For example, Motorola’s values and norms of global corporate behavior were traditionally based on “constant respect for people” and “uncompromising integrity”—principles rooted in the personal code of company founder Paul Galvin and extended to a global code of conduct. But these principles ignored global cultural diversity and created conflicts between Motorola’s traditional ethical expectations and acceptable business practices and ethical standards (such as gift giving, paying agent’s fees, or group rewards) in the countries in which they operated.

The corporate *chameleon* adopts customs, rules, and values from host environments, uses decentralized codes for foreign subsidiaries, and bases its standards on local practices and customs. Shell and United Technologies may serve as examples. While this type is highly adaptable to and respectful of local diversity, it may follow problematic local practices such as nepotism, animal testing, or software copying. This type of company lacks a global ethical core and connections to the firm’s implicit corporate values and

beliefs. For example, in some post-Communist countries, “chameleonic” South Korean electronic, Indian trade, or Turkish construction firms are more successful than their Western competitors, because in an ethically dysfunctional and relations-oriented environment, they simply follow the principle “When in Rome, do as the Romans do.”

The corporate *nationalist* prioritizes and adopts the values and customs of the home country. When conducting business in the other countries, such compliance-oriented firms like Renault or Honda rely on home legislation. This firm may not have its own source of core values but derives values from the standards and customs of the home country. For example, an American firm may emphasize OSHA standards or Foreign Corrupt Practices Act in other countries. But it may also permit government programs on site or respond to host government requests to fire an employee. This law-abiding orientation, compatibility with the home culture, and transparent reputation may strengthen the company unless it faces difficulties when home and host country laws conflict or when it serves as a target for local anti-Americanists.

The utilitarian corporate *opportunist* pays relatively less attention to cultural and stakeholder issues or to integrating the efforts of its personnel via codes of conduct or cultural training. To achieve primarily short-term and medium-term results, it might use different approaches or combinations depending on the situation in a particular environment. While this pragmatic approach by “opportunistic” companies like Texaco and Life Science justifies focused business orientation, it lacks a visible ethical core and transparent cultural identity. The metaphor of a pirate ship carrying a wide array of flags to run up the pole when new circumstances arise is quite applicable to the corporate pragmatist.

Typologies of a corporate cultural “genetic code” help to better understand the fit between a foreign business environment and a firm’s cultural orientation to these environments, to consider this fit in strategic entry and business development in a country, and to extract cultural sources for sustainable success.

CULTURAL SENSITIVITY IN MULTINATIONAL COMPANIES’ POLICIES

Cultural Considerations in MNCs’ Subsidiaries

A growing number of international firms go far beyond economic and financial sources to succeed in foreign markets. They seek ways to capitalize on cultural differences in other countries and find new sources for strategic success. Many are serious about adding the parameters of global versus local cultural configuration to their pattern of strategic decisions.

For example, managers from several multinational companies doing business in Russia such as Shell, 3M Company, J. P. Morgan, Unilever, and Motorola were asked,

- if the Russian GLOBE score on selected dimensions reflected strategic advantage or strategic disadvantage to their companies; and
- if this was perceived as an advantage, did the company capitalize on this or not? And if it was perceived as a disadvantage, did the company try to correct this or not?

The analysis revealed agreement on the *advantages* of the Russian behavioral configuration. The companies respondents positively assessed the ability of Russian managers and employees to work in teams and to follow group norms. Each company in the survey has developed a sophisticated system to exploit this factor and motivate the high loyalty of its Russian managers, sometimes pushing them to sacrifice individual interests. The cultural environment helped multinationals combine innovative efforts within the company and target specific groups in the market. At the same time, respondents shared a high level of agreement on selected cultural *disadvantages*. The companies tried to correct the influence of low uncertainty avoidance by providing clear corporate guidelines and codes of conduct. The respondents explained low assertiveness by referring to the conformism rooted in the authoritarian system and the lack of leadership initiative. To balance the negative impact of this factor, these companies have designed specific programs encouraging initiative and entrepreneurial assertive behavior for managers. Most respondents mentioned the companies' serious consideration of low-performance orientation and future orientation and its impact on company policies. Some respondents viewed this as a positive factor since companies could build competitive advantage by creating vision and encouraging leadership behavior. Others considered this a disadvantage when working with more future-oriented headquarters and other international subsidiaries.

In particular, 3M's global strategy differentiates developed economies, growing-but-volatile economics, and emerging markets. When doing business in emerging economies, the company focuses on products for the country's infrastructure, like highway signs and telecom equipment, and equipment for exploiting natural resources, like mining and products for oil and gas industries. For the past decade, 3M has enjoyed profitable, double-digit sales growth in Russia, established a sales distribution network, and helped launch multiple local businesses by sharing its technology and helping them tailor 3M products for the Russian market. 3M's experience in Russia provides two important lessons for multinational companies facing significant cultural differences in a foreign market. First, 3M leverages positive cultural traits. Recognizing the Russian tradition of working cooperatively, the company has aggressively implemented 3M's team-based work practices. Recognizing the comfort with which Russian managers operate in a turbulent environment, 3M Russia has hired most of its top executives locally. 3M Russia is known for a tough hiring process, with six to eight interviews that

focus on a candidate's innovativeness and cultural compatibility. The company has also capitalized in an interesting way on a longstanding Russian tradition: the practice of making charitable contributions to the community. As one of the relatively few companies adopting a policy of good corporate citizenship, 3M has made itself more "Russian," dramatically raised its profile in the country, and established solid relationships with government authorities. Second, 3M turns negative cultural traits to its advantage. The Russian business environment can be corrupt and dangerous; bribes and protection money are facts of life. But unlike many international companies, which try to distance themselves from such practices by simply banning them, 3M Russia actively not only promotes ethical behavior but also ensures the personal security of its employees. The company enhances its reputation as an attractive employer by working with its sales force to avoid both illegal acts and personal harm. 3M Russia also strives to differentiate itself from competitors by being an ethical leader and by holding training courses in business ethics for its customers and suppliers.

International Strategic Alliances and Mergers

The strategic role of culture is shown in the interaction of companies from different countries—in strategic alliances, mergers, and acquisitions. Cultural frictions may increase transaction costs while the ability to overcome cultural distance may translate into valuable advantages such as quick access to a partner's competencies, joint manufacturing, global marketing, shared client base, accelerating innovations, and fostering industry standards.

Strategic alliances are trustful, long-term, and mutually beneficial relations between the firms that permit each partner to more effectively accomplish strategic goals, coordinate shared resources, and optimize transaction costs. These relations may take different forms such as joint ventures, long-term licensing agreements, joint marketing or manufacturing reciprocal dedicated assets, or combinations of these forms. An analysis of major international alliances shows that their effectiveness depends on appropriately selecting partners with alliance experience but that are not direct competitors; preserving symmetry (win-win); controlling obligations; resolving conflicts; making decisions quickly; and—last but not least—understanding cultural differences.

When in the late 1970s, Honda and Rover agreed on a strategic alliance in car manufacturing, both parties clearly realized their technological and cultural differences and did not expect quick results. Both participants emphasized mutual trust and commitment as key success factors of the partnership. That is why additional efforts and resources were channeled into understanding each other's culture and core values, creating mechanisms for conflict resolution, intense training, and exchange of ideas. This process took about 7 years, or nearly half of the alliance lifetime.

Once the partners created a higher cultural cohesion with substantial “Japanization” of British production facilities and a smooth cross-border know-how transfer, they decided to move to an equity-based form (swap shares) and further strengthen their cooperation in manufacturing new models, streamlining shared supply systems, new market development initiatives, and technology transfer (design and process technologies).

In international mergers and acquisitions, cultural factors may play an even more critical role. When companies buy companies for access to markets, products, technology, resources, and management talent (less risky and faster than through internal efforts), they face transition from strategic fit to organizational fit. In effective mergers, top executives take an active role in the ex post process; they involve operating managers and internal consultants in the change process and rely on professional integrators.

When, in the late 1990s, Daimler-Benz and Chrysler Corporation announced “a merger of equals” as a response to globalization, they emphasized cultural integration in their postmerger efforts based on a clear concept, a precise timetable, pragmatism, openness, and speed. The leadership of this new auto giant agreed that only those companies that adapt to national cultures and traditions, respond to the demands of various national and regional markets, and are willing to assume responsibility for making a real contribution in those societies will be able to successfully compete in the long run. These two somewhat ethnocentric companies united in an effort to create a new mega-corporation with a new global culture. They had to address differences in communication styles and decision making, consider compensation practices and union influence, and change stereotypes about their home bases. When asked about differences in the national cultures of the parties, DaimlerChrysler’s CEO Dieter Zetsche explained that they had created a new corporate culture that was neither American nor German, but global, combining the strengths of both national cultures. While the merger dissolved in 2007, it was quite successful in responding to negative impacts of globalization in car manufacturing in the previous decade and in creating shareholder value for parties involved.

Leadership Core Competencies

The resource-based view of the firm suggests that multinational companies build competitive advantage by utilizing their tangible and intangible resources, including those directly related to human behavior in the organization. Core competencies—combined skills/behaviors developed through organizational learning, which are valued by customers and are difficult to imitate by competitors—are viewed among the major strategic success factors, for example, 3M’s innovation, Kodak’s digital imaging, and Boeing’s large complex integrated systems.

In the 2000s, top multinational companies have been seriously considering behavioral resources as a source of competitive advantage and sustainable strategic development. They viewed leader effectiveness as a function of the interacting strategic organizational contingences, leadership competencies, and leader attributes and behaviors.

Johnson & Johnson, one of the most competitive global health-care corporations, relies on leadership core competency worldwide. Among the six basic tools to achieve the company strategic goals, “leadership” was named number one. At the same time, lack of leadership competency throughout a global company was viewed as the biggest single constraint to growth. Developed by American experts, but adjusted to multicultural operations, “The Standards of Leadership” framework was launched in 1996 and applied to operating divisions and franchises everywhere in the world. This model showed the relationship between Johnson & Johnson’s “Credo” values, business results, and the companywide leadership competencies required to achieve these results. Because this model was unique to Johnson & Johnson, its leaders had not previously compared themselves to this special set of standards. Among its criteria were considerations of the individual as a role model for “living” Johnson & Johnson values, ensuring that his or her organization seizes the advantage of leadership in its field or market, and fostering open, candid communication across organizational geographic boundaries. Worldwide implementation of these “Standards of Leadership” provides a coherent managerial behavior through all Johnson & Johnson companies.

Another example of reliance on leadership core competency in strategic development is the Anglo-Dutch company Unilever, known for worldwide brands such as Lipton, Dove, Surf, and Rexona. In 2001, the company announced its new strategy “Path to Growth.” It aimed to encourage employees in all countries to display winning behavior in the marketplace through their mind-set, passion, and motivation. Most important in this strategic redirection was Unilever’s new competency model, the Leadership for Growth Profile (LGP), which combine the following components. First, everyone in the company was expected to create growth vision. Growth was considered the key criterion for employees’ behavior at Unilever. Second, everyone had to drive growth through implementation and to energize others for growth. Third, it was important to secure commitment to growth. By defining a new set of LGP competencies/factors and using it for management development and recruitment, Unilever tried to change managers’ behaviors and increase behaviors that were directly linked to achieving strategic growth. The corporate Purpose Statement described what Unilever aspired to be, as well as expressed its values and beliefs and pointed out Unilever’s focus on local culture. In this multilocal, multinational company, local operating subsidiaries were able to draw on the resources of a global corporation and bring together global scale and local relevance.

The Ethical Dimension of Strategy

Among the latest trends in sound multinational companies' strategies is the response to ethical challenges and the stakeholder model in the global economy. Leading companies redefine their attitude to new ethical challenges rooted in national cultures. They revisit their strategic goals to incorporate an ethical dimension into their long-term milestones and performance management, assign new ethical responsibilities to senior managers in headquarters and foreign subsidiaries, provide resources for sustaining corporate-wide ethics, and transfer ethical principles to global supply chains. The most recent trend is cooperation among industry leaders in computer manufacturing, software development, apparel, and even banking in creating industrywide ethical standards. These standards may consider elimination of child labor in the supply chain, rejection of loans to those damaging the environment, and collective enforcement of intellectual property rights worldwide. It is important to underline that these new ethical policies do not necessarily incur additional costs. They may actively generate new competitive advantage by responding to the customers' ethical awareness and by creating higher industry entry barriers to less ethical firms.

Nike is an example of a company with a proactive ethical global strategy. Driven by a search for cheap labor, it accessed Asian contractors. However, in the late 1990s, it was accused of child labor, sweatshops, harassment, and wage problems in its supply chain with over 600,000 employees. The company proactively responded to these accusations and raised ethical sensitivity of its global strategy, appointed a social responsibility vice president, issued social responsibility reports, conducted an open-door policy, outlined compliance areas, and facilitated respectful treatment of workers in all countries. In the other words, Nike tried to form a positive cross-cultural connection and a clear communication channel between headquarters and its foreign-owned manufacturing facilities. Other companies such as Adidas and Reebok followed the same type of policy and engaged in an industry leaders' dialogue about shared ethical standards and cultural sensitivity.

CONCLUSIONS

Multinational firms' executives seek professional tools to make sound and effective strategic decisions about doing business internationally and consider the *growing economic role of culture* in the life of a business organization. This idea is recognized by intellectual champions of the business community who take into consideration cultural dimensions in determining their choice of organizational practices in foreign operations and product positioning and respond to globalization by incorporating noneconomic parameters into their strategy making.

This chapter addressed this complex culture-sensitive perspective on global strategy and discussed corporate responses to globalization with an emphasis on culture. The chapter bridged the gap between traditional policy interpretation and the emerging behavioral component of global strategic management and summarized major scholarly contributions to this field with practical examples of culture-based sources for competitive advantage.

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CO-OPETITION

Promises and Challenges

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Co-opetition refers to simultaneous cooperation and competition between different individual or organizational actors. In this chapter, we focus on companies or firms and their co-opetition *strategy*, that is, the ways in which firms simultaneously compete and cooperate in order to create and pursue current and future advantages for themselves. Traditionally, firms either collaborated or competed with each other rather than doing both at the same time with the same firms. The emergence of co-opetition has changed that and brought intriguing promises as well as challenges to firms. Business examples of co-opetition abound. As early as 1976, major Japanese semiconductor and electronic firms—Fujitsu, Hitachi, Mitsubishi Electric, NEC, and Toshiba—collaborated in the Very Large-Scale Integrated (VLSI) Technology Research Project. Recent business press (Coy, 2006) suggests that “sleeping with the enemy” or learning to work with rivals is becoming very important. The importance of co-opetition seems to be even greater in technology intensive industries, partly because of intensifying technological battles and complexity of technologies. As SAP CEO Henning Kagermann stated, “[T]he power of co-opetition will only grow as products become more complex and as competition widens globally” (as

cited in Coy, 2006). Other recent examples of co-opetition are Microsoft and SAP developing Duet software, LG and Philips developing panels for large TVs, and MedUnite being founded by seven competing U.S. health care insurers to develop an efficient Internet-based connectivity system to reduce health care costs. The increased popularity of co-opetition is indicated by the fact that over 50% of collaborative relations (strategic alliances) are between firms within the same industry, that is, among competitors (Harbison & Pekar, 1998).

In discussing the increasingly popular concept of co-opetition, we begin with a detailed illustration of collaboration between two fierce rivals—Samsung Electronics and Sony. This case study, focused on a high-technology context, helps to illustrate why firms engage in co-opetition as well as the kinds of dynamics and challenges firms face when they collaborate and compete at the same time. Next, we briefly discuss the intellectual roots of the co-opetition construct. We then introduce a framework that will help to develop a broad understanding of co-opetition. Next, we provide a summary of the literature and an exploration of the drivers, processes, and outcomes of co-opetition. We conclude the chapter with an illustration of future research

directions that can strengthen and enrich the co-opetition construct.

S-LCD AND CO-OPETITION BETWEEN SAMSUNG AND SONY

For many years, Samsung and Sony have been fierce rivals in the electronics market, with Samsung Electronics' key mission being to unseat Sony in TV sets. The roots of their rivalry stretch back to Japan's colonization of Korea in the early 1900s. Yet, in 2003, the two firms formed a joint venture (JV) called S-LCD to develop and produce seventh generation (46 inches or smaller) LCD panels for flat screen TVs. To underscore Sony's commitment to the JV, Sony threw a party in Japan for a select group of Sony and Samsung engineers. Some public reaction in Japan to the deal was visceral (Dvorak & Ramstad, 2006): Anti-Korean slurs and accusations that Sony was a traitor appeared on chat boards in Japan. Government officials had urged Sony to ally with a Japanese company. In January 2004, Sony said it had pulled out of a secretive, government-backed, LCD-panel development group in order to address concerns that the confidential technology would fall into Samsung's hands.

In the last 3 years, these two companies have not only deepened their resource commitments to the JV, but have also had tremendous success as the LCD technology developed by the JV helped both companies to gain market share in large screen TVs and push the LCD technology in the market (Ihlwan, 2006). They have more than doubled their investments and recently signed a contract for eighth generation technology (LCD panels of more than 46 inches). The potential for future success is clear from the following statement by Mr. Won-kie Chang, CEO of S-LCD:

Our success in 7G production has already provided a springboard for a new round of growth at S-LCD. Once our 8G line is up and running, we will assume the leading position as a LCD TV panel manufacturer for the 50-inch LCD TV range.

Each party owns 50% of the venture, with the CEO from Samsung and the CFO from Sony. Samsung brings its technological strengths in the LCD technology, which it has used primarily in small-screen electronics such as cell phones and computers. Sony brings its strengths in television and consumer electronics, particularly its market leadership in television. Overall, this oddest of alliances between two cutthroat competitors so far seems to be working out for both sides. The JV was very attractive for both Samsung and Sony for several reasons. Samsung needed help from established players like Sony on the TV market in order to learn about the market forces. Samsung was a second-tier manufacturer of electronics until the late 1990s. It poured huge sums into making memory chips and LCD panels—out-investing the Japanese companies that had dominated those businesses. While Samsung was able

to make panels with relatively static images for products like computers, it faced challenges in making them look as good with moving pictures for TVs. So Samsung executives thought that a JV with Sony would let Samsung learn from and use Sony's TV-making expertise to LCD panels. Samsung could use the same wide viewing-angle technology that many of Sony's Bravia sets had. Second, Sony's difficult demands for the technology and product quality helped push Samsung's panel technology ahead of others. This was especially important given Panasonic's dominance in the rival PDP technology. Finally, competition with Sony was likely to help Samsung hone its own TV designs.

On the other hand, while flat panel TV sets were spreading rapidly in the market, Sony had neglected to invest in them. With TVs accounting for around 20% of Sony's electronics revenue, executives realized that the company had to get into flat panels fast. Samsung had developed a huge lead in technologies like LCDs that Sony lagged behind. Moreover, without the S-LCD, Sony's TV business would have been in great trouble as Sony had announced that its TV division would post a \$1 billion loss in the fiscal year ending in March 2006 (Dvorak & Ramstad, 2006). When LCD panels were available from S-LCD, Sony was able to use the panels in its new LCD TV line called Bravia, which was an instant hit and Sony unseated Sharp Corporation from its top market position in LCD TV sales in the United States. Thus, while Sony was experiencing deeper level problems in the large, flat screen TV market, the S-LCD provided the much needed help to Sony.

Figure 38.1 summarizes the evolution of co-opetition between the two firms through the S-LCD venture. In Figure 38.1, cooperative activities are listed at the bottom and illustrative competitive activities and their outcomes are listed on the top. Figure 38.2 illustrates change in market share of major TV producers including Samsung and Sony. Figure 38.3 illustrates Samsung's substantial improvement in its market position in the TV industry, particularly in the LCD segment of the industry where co-opetition is occurring through the S-LCD.

The birth of S-LCD changed the dynamics among LCD TV makers including the parents of the S-LCD venture. Sharp's leadership with its Aquos models was challenged by Sony's Bravia because of its high picture quality. By the end of 2005, Sony's LCD TVs took the world's number one spot. Samsung countered with its new Bordeaux model that helped it gain significant market share. The success of the JV led to the building of a \$3 billion eighth generation plant, which will produce LCD panels that will directly compete with plasma sets in the 50-inch class market. Analysts say a widening investment gap between S-LCD and the rest of the industry pack will likely give the Sony-Samsung venture a clear lead in LCD TV screens. Sony believes that, given the cost savings, it can keep developing popular LCD TV models such as the Bravia and improve its competitive standing in the industry.

At the same time, this co-opetitive relationship has certainly brought multiple management challenges that are

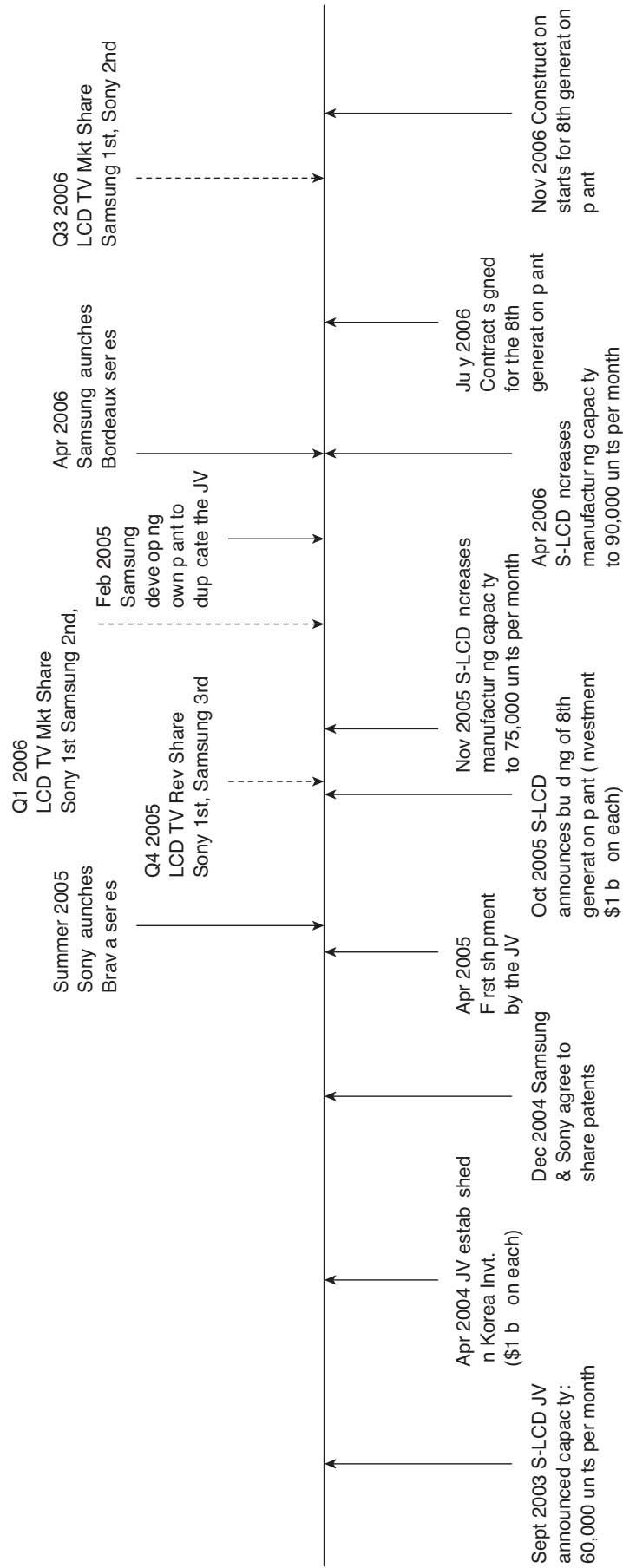


Figure 38.1 The Evolution of Co-Operation Between the Turo Firms Through the S-LCD Venture

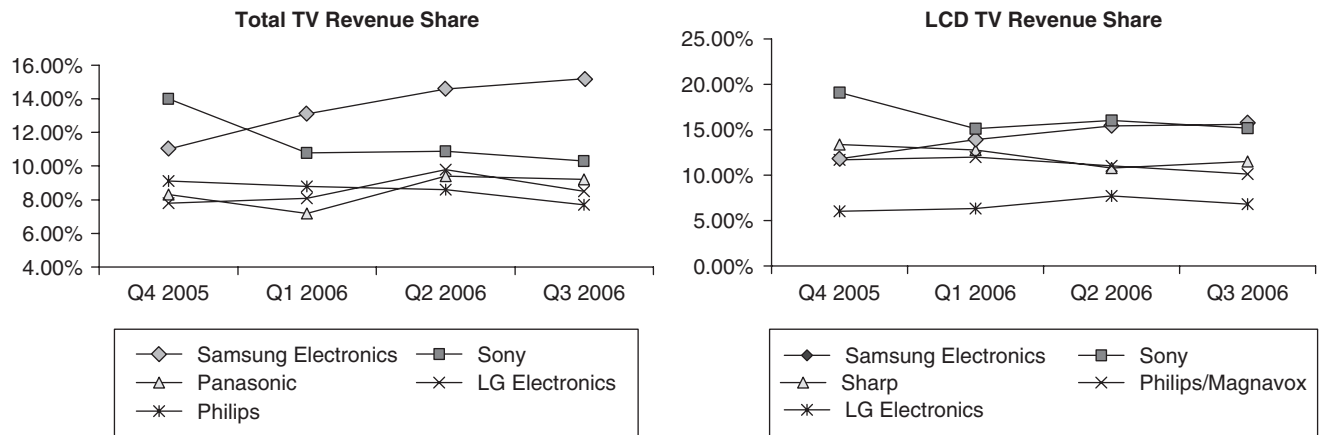


Figure 38.2 Global Market Share (in Terms of Revenue) of Major TV Producers

illustrative of co-opetition dynamics. For example, in order to prepare itself to work with a Japanese partner, key Samsung engineers traveled to Sony’s TV headquarters in Tokyo, learning what features Sony TV engineers focused on. Samsung engineers were able to learn finer details such as a new light Sony had developed to go behind the LCD panel, which would let the TV display a wider range of colors. Because Sony jealously guards know-how about its TVs, Samsung was able to see so much only because it was a partner. Sony engineers conceded that Samsung could eventually use Sony’s technology to compete against them. But given the nature of the consumer electronics industry, they thought it was hard to keep secrets long anyway, and being open with Samsung was key to making the JV work. Sony engineers said, “If we put up barriers, they’ll close up too.” Yet, Sony engineers also worry that Samsung will eventually use Sony’s TV expertise to beat the Japanese company. Executives at both companies clearly had concerns about working so closely with a direct rival. For ex-

ample, Sony pressed Samsung’s team for panels that could show a greater array of colors, from a wider viewing angle, at a higher resolution than the industry standard. Samsung was asked to speed up its development schedule by as much as a year. Initially, Samsung’s research and development (R&D) team was unwilling, but it eventually agreed to speed up the timetable (Dvorak & Ramstad, 2006).

An additional complication was that Sony and Samsung also represent countries that have traditionally considered keeping the lead in technological innovation a matter of national pride. Although both companies say that nationalistic concerns play no part in their choices of who to partner with, the alliance certainly shocked the public in both countries. As noted earlier, it prompted complaints on Sony-related message boards and forced Sony to drop out of a key Japanese industry technology alliance.

In summary, the S-LCD case clearly illustrates that firms, especially those engaged in leading-edge technologies and products, often find it critical to collaborate with fierce rivals in order to push the technology frontier and to create mutual advantage. In order to understand the dynamics of co-opetition in a more sophisticated manner, we will now take a brief look at the historical underpinnings behind the co-opetition construct.

HISTORY AND INTELLECTUAL ROOTS OF CO-OPETITION

The term *co-opetition* was popularized by the bestselling book titled *Co-Opetition* by Brandenburger and Nalebuff that was published in 1996. Although the label itself was coined by Noorda, then CEO of the technology company Novell, Brandenburger and Nalebuff’s book presented it in a compelling and usable manner to a broad business audience. Of course, the idea of simultaneous cooperation and competition has been around for much longer. For example, the maxim “the enemy of my enemy is my friend” has long been a staple of political and military strategy. This section provides a brief overview of the evolution of the

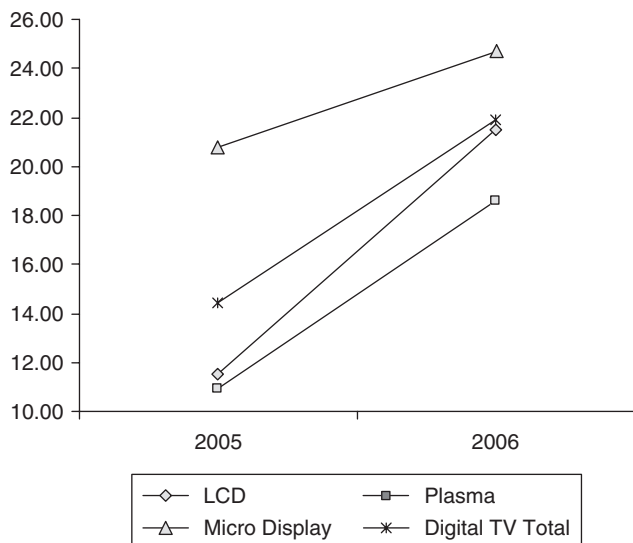


Figure 38.3 Samsung’s Market Share (in Terms of Revenue) in the United States by TV Segments

co-opetition construct: We begin by summarizing the main elements of co-opetition as articulated by Brandenburger and Nalebuff, then we discuss the key intellectual strains that combined to help sustain the framework, and we conclude by sketching some of the practical developments that provided a welcoming environment for co-opetition and related ideas.

Brandenburger and Nalebuff (1996) began with the observation that the traditional view of business emphasized competition (“business is war”) and neglected the role of cooperation; thus, to them, co-opetition was a revolutionary mind-set that combines cooperation and competition. A central idea in co-opetition is that of complements such as hardware and software referring to products or services that increase the value of other products or services—as in your iPod becoming more valuable to you when you have more music available for it. Relating the idea of complements to Porter’s five forces model for industry analysis, Brandenburger and Nalebuff proposed the value net as a tool for mapping the set of competitive and cooperative relationships that a company is embedded in. In effect, the value net adds a sixth force, complements, to conventional analysis. (Brandenburger and Nalebuff stressed product complements, but resource complementarity is also crucial—in the S-LCD case study, e.g., it is evident that Sony and Samsung found productive complementarity between Sony’s TV-market expertise and Samsung’s technology resources.) To facilitate the systematic application of the co-opetition construct, Brandenburger and Nalebuff proposed a framework they call the PARTS framework, a mnemonic for players, added value, rules, tactics, and scope. The PARTS framework allowed for the systematic and careful analysis of the identities and incentives of current and potential players, the value contributed by each (including yourself), how the game is structured and played, the perceptions and mental models of the players, and the boundaries of the game as well as how games are linked to one another. Viewing business situations through the lens of the PARTS framework allowed strategists potentially to reconceive how the business game could be played, leading to the discovery of new ways to add value. Especially in high-technology industries such as information technology, Brandenburger and Nalebuff’s ideas found great resonance.

As practicing game theorists, Brandenburger and Nalebuff (1996) attributed much of the intellectual lineage of the co-opetition construct to game theory. In economics, game theory, of course, is a dominant intellectual framework for the disciplined analysis of rivalry and competition—and thus, a staple of undergraduate strategy classes. Classical game theory analyzes how players choose their strategies given the form of the game; for example, the concept of equilibrium arose from games of pure competition where the focus was often on zero-sum, single-stage games. However, as game theory evolved, greater attention was devoted to rivalry in repeated games, which highlighted the notion of cooperating and competing at the same time. When players know that they will have to deal with one another

in the future, it changes the strategic logic of games—they must then consider not only the immediate consequences of their choices, but also how those choices will affect the long-term relationship. For example, the longer term benefits stemming from a continued good relationship can outweigh the immediate benefits of taking advantage of a rival. In this regard, Axelrod’s 1984 book *The Evolution of Cooperation* was of seminal importance, examining how cooperation can emerge in a world of self-seeking entities even in the absence of a central authority to coordinate their actions. Axelrod’s central statement of his thesis is

What makes it possible for cooperation to emerge is the fact that players might meet again. This possibility means that the choices made today not only determine the outcome of this move, but can also influence the later choices of the players. The future can therefore cast a shadow back upon the present and thereby affect the current strategic situation. (p. 12)

The concern with strategic action as embedded in ongoing relationships—Axelrod’s shadow of the future—was also reflected in the work of scholars other than game theorists. For example, the sociologist Leifer in his 1991 book *Actors as Observers* developed a sociological parallel to the economic logic of repeated games, drawing from an empirical analysis of chess games evidence of skilled players demonstrating skill in relationships with their rivals and a sensitivity to the balance between keeping the game going and exploiting opportunities to gain the upper hand.

Along with these core developments in game theory, several other notable academic works contributed to the popularity of co-opetition. Groundbreaking work in network economics by David, Katz, and Shapiro, among others, led the elaboration of crucial new insights into the nature of industries characterized by network externalities, complements, and positive returns. Observers such as Reich and Hamel in strategy documented instances of cooperative relations between rivals, highlighting their intricate nature as well as raising questions about the eventual consequences. Jorde and Teece (1989) called for the need to strike the right balance between competition and cooperation in public policy thinking (e.g., antitrust) as well as in business and corporate strategy. These and related intellectual developments during the 1980s and 1990s combined with the game theoretic focus on repeated games to provide the conceptual infrastructure for the co-opetition construct to emerge by the late 1990s.

As the co-opetition construct gained traction and evolved in intellectual terms, the term has been used to label a new philosophy, strategy, or approach that goes beyond the conventional contrasting rules of cooperation and competition (Luo, 2004a). In particular, from a philosophical perspective, the notion of co-opetition has been applied to formulate an “interdependent opposites” view of the fundamental relationship between cooperation and competition (Chen, 2006). As noted earlier, this chapter adopts a strategy-focused view, which enables us to distinguish from

the philosophical view that in any specific relationship *both* the cooperative and the competitive elements can be found (Bengtsson & Kock, 2000).

Of course, the intellectual roots did not exist in isolation from what was going on in the practical world of business. In fact, arguably, changes in the business world impelled some of the previously mentioned intellectual developments. For a long period, the idea of simultaneous cooperation and competition fell outside the pale of what was considered acceptable—for example, cartels such as OPEC were what often came to mind in such a context, suggesting that rivals were getting together to fix prices or to divide markets, that is, to transfer welfare from the consumer to themselves rather than to create value. However, this jaundiced view began to change as international competition intensified in the 1970s and 1980s, with managers and policymakers paying increasing attention to the competitiveness of their national champion industries and companies. Over time, there was a relaxation of antitrust strictures as the locus of competition shifted to cross-border, with the idea that domestic firms may need help in order for them to be competitive globally gaining currency. Japan was an early mover in this arena, as illustrated by the 1971 formation of the computer industry consortium in order to fight IBM. Equally well known is the Japanese VLSI Research Association mentioned earlier. In contrast, the U.S. policymaking establishment, steeped in the traditional mind-set that competition was the exclusive means to efficient resource allocation, took longer to admit that cooperation and competition could coexist. It was in 1984 that the National Cooperative Research Act (NCRA) was passed, embodying the idea that industry rivals, even while competing vigorously in product markets, could potentially benefit from pooling resources and sharing risks in precompetitive phases such as R&D. The NCRA set in motion a period of change during which antitrust policies evolved to accommodate cooperative activities between rivals, including research consortia (e.g., in the semiconductor industry) and JVs as well as other forms of strategic alliance—of which there was an explosion during the 1990s onward.

One interesting feature of the co-opetition construct's trajectory has been its extraordinary appeal to the high-technology industry, with strategists such as Intel's Grove acting as boosters. While the central ideas of co-opetition are certainly applicable to many industries including the most traditional ones, high-technology industries exhibit several characteristics that may accentuate the appeal of co-opetition. Such characteristics include many features of network economics—the presence of network externalities, the importance of complements, as well as patterns of geographic aggregation (e.g., the concentration of firms in Silicon Valley) that facilitate intense personal interaction between rivals. It could also be that the shadow of the future may fall more or less lightly in different industries: In fast-paced industries with uncertain technology futures, the incentive to cooperate may be greater than in other contexts. Whatever the reasons, the co-opetition construct appears to

have enjoyed particular attention among high-technology strategists.

This section has outlined the key intellectual and historic developments that led to the emergence and popularity of the co-opetition construct. While we have not attempted to provide an exhaustive account of all the precedents to the notion, we hope that we have met the goal of situating co-opetition in its proper context in the reader's mind. We now go on to elaborate on co-opetition in a finer grained manner through an organizing framework.

CO-OPETITION: AN ORGANIZING FRAMEWORK

Although the basic meaning of co-opetition is straightforward, the concept has been loosely applied in various contexts, sometimes without clear specifications. To facilitate business and academic conversations about co-opetition, it is thus helpful to have a systematic scheme for grouping various types of co-opetition strategy. With this goal in mind, we classify co-opetition strategy according to (a) axis of business relationship, (b) number of actors involved, (c) level of analysis, and (d) locus of cooperation and competition. Figure 38.4 presents the organizing framework for thinking about the various types of co-opetition. To illustrate, the co-opetition between Samsung and Sony described earlier is an example of a horizontal bilateral relationship that is temporally and spatially colocated. We briefly describe the elements of the framework in this section.

Axis of Business Relationship

In the business press, co-opetition is mainly used to refer to collaboration with competitors. However, since Porter made popular the notion that competitive forces include industry participants of various kinds such as suppliers, buyers, potential entrants, substitutes, and incumbents, it is widely accepted that collaboration can take place between any pair of parties who may generate and appropriate value from the same pool (Brandenburger & Nalebuff, 1996). Therefore, a co-opetition strategy can be defined as either *vertical* or *horizontal*, based on whether the players are vertically adjacent to each other in the industry value chain or are rivals at the same stage in the industry value chain.

The distinction just mentioned suggests that collaboration between industry rivals is horizontal co-opetition, as the actor firms involved belong to the same stage of the industry value chain. With regard to horizontal co-opetition, an interesting question arises as to whether co-opetition between industry rivals constitutes collusion. While the definition of collusion is often a contentious legal matter, we propose that collusion and horizontal co-opetition differ in a fundamental way. Specifically, the “cooperation” element in collusion is aimed at *appropriating value* illegally from other stakeholders (mainly customers, as in the case of cartels), whereas the cooperation element in horizontal

Locus of Co-Opetition		Axis of Co-Opetition	
		Vertical	Horizontal
Dyad (Same firms)	Temporally and spatially colocated	Co-opetition between players who are vertically adjacent to each other in the industry value chain and who compete and collaborate in the same domains Manufacturer works with dominant retailer as well as smaller retailers, but helps the smaller retailer to survive so that the dominant retailer does not have a monopoly	Co-opetition between players who are rivals at the same stage in the industry value chain and who compete and collaborate in the same domains Example: Samsung and Sony in LCD TV
	Temporally and spatially separate	Co-opetition between players who are vertically adjacent to each other in the industry value chain and who compete in one domain and collaborate in another domains	Co-opetition between players who are rivals at the same stage in the industry value chain and who compete in one domain and collaborate in another domain
Multiple Firms		Co-opetition between players who are vertically adjacent to each other in the industry value chain and who collaborate with each other in order to compete with rivals pairs or groups	Co-opetition between players who are rivals at the same stage in the industry value chain and who collaborate with each other in order to compete with rivals pairs or groups

Level of Analysis

As previously noted, the number of players involved in co-opetition can be more than two. For simplicity, we focus on bilateral co-opetition and define the level of analysis for co-opetition according to the “organizational” level(s) of the two actors. In extant studies, co-opetition strategy has been investigated at the following levels: (a) *interorganizational unit* (which is intrafirm; Luo, 2005; Luo, Slotegraaf, & Pan, 2006; Tsai, 2002); (b) *interfirm* (Bengtsson & Kock, 2000; Brandenburger & Nalebuff, 1996; Carayannis & Alexander, 2004; Chien & Peng, 2005; Khanna, Gulati, & Nohria, 1998; Oliver, 2004); (c) *firm government* (Chaudhri & Samson, 2000; Luo, 2004b).

An interesting subset of the broad phenomenon of co-opetition is observed when the cooperative and competitive elements are separated at different levels of analysis.

Figure 38.4 A Framework for Understanding Co-Opetition

co-opetition emphasizes *creating value* for all stakeholders by pooling competitors’ complementary resources. For instance, joint effort by rival firms to share R&D risks or to streamline their distribution systems and increase efficiency is closer to horizontal co-opetition than to collusion. In such a context, the benefits from improved efficiency can be passed on to customers or to the society as a whole.

Number of Actors Involved

A dyad is the basic unit for observing the employment of a co-opetition strategy. However, simultaneous cooperation and competition can exist among multiple players. For example, the whole population of rivals in the same industry may join forces in R&D consortia while still competing vigorously with each other in the product market. In fact, interesting dynamics can take place when greater numbers of players are involved in co-opetition. The complexity of co-opetition can be much higher for *multilateral co-opetition* than for *bilateral co-opetition* as an actor can strategize its relationship with one actor to gain competitive or cooperative advantages over other actors who also belong to the multilateral co-opetitive relationship. In other words, managing the relationships with different players can itself be a part of an actor’s co-opetitive strategy (Madhavan, Gnyawali, & He, 2004).

For instance, friendships and collaborative ties may exist between employees or managers from organizations that maintain formal competitive relationships in the market. In other words, cooperation can exist at the interorganizational-individual level while competition at the interorganizational-organizational level (Ingram & Roberts, 2000; Oliver, 2004). Viewed from a social network perspective, interfirm competition is embedded in the social network of organizational members. Such collaboration networks among individuals from competing organizations may help reduce the competitive tension at the interorganizational level (Ingram & Roberts, 2000) while simultaneously being constrained by institutional and organizational arrangements (e.g., antitrust regulations, confidentiality agreements between the firm and its employees, etc.; Oliver, 2004)

Locus of Cooperation and Competition

Simultaneous cooperation and competition constitute severe complexities and cognitive-psychological challenges for business practice and academic research. For example, the human need for cognitive balance makes it likely that demands to compete and collaborate with the same other will place an individual at risk of cognitive dissonance. However, as suggested by Poole and Van de Ven (1989), such complexities can be resolved by *temporal separation* (which

accounts for time) and/or *spatial separation* (which accounts for locality of activity). Thus, co-opetition strategies can also be classified into four basic forms using temporal and spatial separations (Bengtsson & Kock, 2000; Chen, 2006; Clarke-Hill, Li, & Davies, 2003; Poole & Van de Ven, 1989), with competition and cooperation taken place at the same “location” and in the same “time” as the most challenging form (see Figure 38.4). Also, the location of competitive and cooperative activities can be defined according to (a) product market, (b) geographic market, or (c) value chain stage or proximity to customers (Bengtsson & Kock, 2000).

To summarize, a co-opetitive relationship can be classified using the four dimensions of axis, number of players, level of analysis, and locus. Among the various types of co-opetition, *bilateral* co-opetition is the most basic unit for studying the phenomenon of co-opetition. (It is implicitly expected that knowledge derived from studying bilateral co-opetition can be extended to co-opetitive behaviors involving three or more players.) In some ways, *bilateral, interfirm, horizontal* co-opetition, which is the clearest example of “true” co-opetition, is arguably the most intriguing intellectually, as well as the most challenging managerially. Competing and collaborating with the same firm exposes the firm’s managers to cognitive-psychological stresses (e.g., managing cognitive dissonance), organizational complexities (e.g., developing separate information systems), and public policy traps (e.g., documenting that the collaboration does not entail anticompetitive motives and actions). The S-LCD case discussed earlier is one such example in which the challenges of co-opetition can be seen in their fullest development.

As noted earlier, co-opetition seems to be very common among firms in high-technology industries. We therefore briefly discuss next the factors that lead to the increased prevalence of co-opetition in such industries. This discussion, combined with the details presented on the S-LCD case, suggests that co-opetition will be even more popular in the future, and that firms in high-technology industries need to find ways to effectively pursue co-opetition strategies in order for them to survive and prosper.

PREVALENCE OF CO-OPETITION IN HIGH-TECHNOLOGY INDUSTRIES

The collaboration among Japanese firms for the VLSI project mentioned in the opening paragraph is an example of early co-opetition for technological development. Over 15 years ago, Jorde and Teece (1990) suggested that the changing dynamics of technologies and markets have led to the emergence of the simultaneous innovation model. For firms to pursue the simultaneous innovation model and succeed in innovation, they look for collaboration opportunities that allow them to bring multiple technologies and diverse and complementary assets together. With a focus on informal exchange of technology among competing firms, Von Hippel (1987) argued that collaboration for knowledge sharing

among competitors occurs when technological progress may be faster with collective efforts rather than through individual efforts and when combined knowledge offers better advantages than solo knowledge. Thus, co-opetition is likely when technological standards are being developed and when combining multiple bodies of knowledge provides superior advantages. More recent research clearly shows the importance of co-opetition in technological innovation. Quintana-Garcia and Benavides-Velasco (2004) empirically showed that collaboration with direct competitors is important not only to acquire new technological knowledge and skills from the partner, but also to create and access other capabilities based on intensive exploitation of the existing ones. Their study found that collaboration with direct competitors contributes to technological diversity and adoption of a complementary approach to product development. Similarly, Carayannis and Alexander (1999) argued that co-opetition is particularly important in knowledge intensive, highly complex, and dynamic environments. Again, the S-LCD case certainly suggests that co-opetition is important in high-technology contexts.

It appears that a few key factors have contributed to the increased prevalence of co-opetition in high-technology industries: short product life cycle, technology convergence, and high R&D costs (Gnyawali & Park, 2007). We briefly explain them now.

Short Product Life Cycles

Because of the rapid pace of technological change, speed to market is becoming more essential to new product success (Lynn & Akgün, 1998). Short product life cycles require companies to reduce time to market in order to launch their products at the right time to get reasonable profits during the useful lifetime of a product. Short product life cycles also require companies to fill the gap between their own exploration capabilities and those necessary to reduce R&D period. As a result, the likelihood of cooperation with competitors having excellent exploration capabilities increases. Oxley and Sampson (2004) suggested that profitability depends critically on firms’ abilities to create and commercialize new technologies quickly and efficiently. Experience in many industries suggests that some competitors have abilities to reduce time to market and that is the critical factor in cooperation with competitors.

Technological Convergence

While historically a particular product or device handled one or two tasks, through technological convergence, devices are now able to handle and interact with a wide array of media. For instance, virtually all entertainment technologies—from radio to television, to video, to books, and to games—can be viewed and played online. Another good example is mobile phones that are being designed not only to carry out phone calls and text messages but also to hold images, videos, and multimedia of all types. Even in

traditional “metal-bending” industries such as automobiles, the electronics content is now a substantial portion of the value chain. Technological convergence has various effects. First, convergence may result in more complex and sophisticated technical developmental tasks. Due to high uncertainty in terms of both market and technology, companies tend to increase diversity; therefore, reducing failure rate is a key factor in alliances. In this sense, appropriate partners should have complementary resources for collaborative R&D alliances. Second, technological convergence offers companies opportunities to set industry standards. Besides competing to develop new technologies, companies (rivals) try to shape emerging industry structures and standards required to support their development and diffusion and that the creation of new industry structures and standards offers rivals an opportunity to build their technological attributes directly into society as institutional rules (Garud, 1994). Industry standards are also being set through competition between groups consisting of leading companies. These factors force companies to cooperate with competitors to get common benefits. Competitors (especially first movers) can cooperate with each other to win in a battle for industry standards with another competitor or a group of competitors (Gomes-Casseres, 1994). In the S-LCD JV case, for example, Sony and Samsung were able to contribute and integrate Sony’s technological expertise in television and consumer electronics and Samsung’s technological expertise in the LCD technology (used mainly in computers and small electronics) in developing the LCD technology for large size TVs.

High R&D Costs

The R&D spending of global companies is rapidly increasing, especially in the high-technology sectors. According to DTI’s the 2006 *R&D Scoreboard* published in United Kingdom, the top 1,250 R&D active companies in the world invested £249 billion (about \$473 billion) in R&D in 2005–2006, which is up 7% from the previous year (a 5% increase in 2005). The following top five sectors account for 70% of R&D: technology hardware, pharmaceuticals, automotive, electronics, and software. Average R&D intensity (R&D as percent sales) is very high in these major sectors: pharmaceuticals and biotechnology (14.9%), software and computer services (10.4%), and technology hardware (8.2%). Over 50% of the R&D global 1,250 are in sectors with R&D intensity of 5% or more. Such massive R&D costs are a strong incentive for companies to cooperate with competitors with a large resource base. Creating a co-opetitive relationship is an effective way to combine R&D expenses and expertise (Zineldin, 2004). In practice, some alliances occur to combine complementary resources, where one side has a superior financial ability and the other has superior technologies. Sharing of costs and risks is especially important when technological uncertainty is very high. Given the existence of competing technologies (e.g., plasma vs. LCD) and uncertainty of the future of the LCD

technology itself for TV, neither Samsung nor Sony was willing to go solo in developing the technology for large LCD panels. Pooling the resources of both partners helped share the developmental costs and technological risks.

Thus, shorter product cycles, technology convergence, and high R&D costs jointly drive co-opetition in high-technology industries, as evidenced in the increased prevalence of co-opetition in such contexts. Given the continued salience of these fundamental drivers, it is clear that high-technology firms that learn to effectively pursue co-opetition strategies will have greater competitive advantage in today’s globally competitive context.

DRIVERS, PROCESSES, AND OUTCOMES OF CO-OPETITION STRATEGY

In this section, we look at the current literature on co-opetition and identify some core themes that have occupied scholars, which we cluster broadly into the three categories of drivers, processes, and outcomes of co-opetition strategy. In developing this section, we summarized the key studies, using the framework introduced earlier to identify—for each study—the type of co-opetition covered, research focus, theoretical background, and conclusions. A few key points with regard to the drivers, processes, and outcomes emerged from our survey of the extent literature, and they are discussed in the following sections.

Drivers

The key idea that Brandenburger and Nalebuff (1996) highlighted in their seminal book is that of co-opetition as involving value creation and value appropriation:

Business is cooperation when it comes to creating a pie and competition when it comes to dividing it up. This duality can easily make business relationships feel paradoxical. But learning to be comfortable with this duality is the key to success. (p. 259)

Similarly, Khanna, Gulati, and Nohria (1998) argued that the tension between cooperation and competition is essentially driven by the conflict between generating “common benefits” and capturing “private benefits.” The locus of co-opetition, thus, is determined mainly by the dynamic relationship between value creation and value appropriation. In other words, the fundamental reason why competitors start to cooperate or collaborators start to compete is the imbalance between value creation and value appropriation in their specific situation. Most authors have agreed explicitly or implicitly on such a rationale even though they may have different terminologies for areas of value creation vis-à-vis value appropriation based on their theoretical orientations. For instance, cooperation in value creation may take place in the input stages of the value chain (according to

industrial organization [IO] economics) or the exploration phase of knowledge management (according to organizational learning theory). On the other hand, competition in value appropriation may occur in output stages of the value chain or the exploitation phase of knowledge management. In practical terms, such imbalance is reflected in resource asymmetries between rivals, which are therefore an important driver of co-opetition (Bengtsson & Kock, 1999). By extension, dynamics resource flows and differentiated structural positions in the resulting networks influence firms' competitive behavior toward others in the network, thus forming another driver of co-opetition (Gnyawali & Madhavan, 2001). The nature of knowledge may also be a potential driver—Oliver (2004) argued that the tension between distributive and integrative elements of knowledge appropriation influences the balance between competition and collaboration.

In specific contexts such as high technology, there appear to be unique drivers of co-opetition seem to be short product life cycles, increasing R&D costs, and technological convergence. The S-LCD case also suggests that those factors were important in motivating rival Sony and Samsung to collaborate with each other.

From the practitioner's perspective, the complexity of simultaneous cooperation and competition requires effective strategic planning and management. Managerial cognitive systems and firm resource profiles that can embrace divergent, seemingly conflicting orientations are more likely to engage in co-opetitive behaviors (Lado, Boyd, & Hanlon, 1997). Meanwhile, changes of institutional norms can have significant implications for firms' behavior (Zajac & Westphal, 2004). As we remarked earlier, the notion of co-opetition has gained in popularity in the business world since the late 1990s. However, many executives still find it difficult to convince others to accept and practice collaboration with their key competitors (Coy, 2006). Therefore, as the norm of co-opetition becomes more institutionally accepted, firms are increasingly likely to switch from the competitive mentality to co-opetitive mentality.

Processes

Even though cooperation and competition can “coexist,” the logics of competition and cooperation are in diametrical contrast. The complexity of managing simultaneous cooperation and competition with the same partner competitor is expected to be highly challenging, which explains the basic tendency to avoid collaboration with direct competitors. In general, the logical and mental paradoxes can be reduced or managed through (a) spatial and/or temporal separations or (b) making either the cooperation element or the competition element tacit or hidden (Bengtsson & Kock, 2000; Oliver, 2004).

Specifically, the generation of common benefits can take place in areas (e.g., value chain stages, geographic regions, product market segments, etc.) that are different from where

collaborating firms capture their private benefits. Thus, the separation of the locus of value creation and that of value appropriation can reduce some complexity and direct conflicts. In particular, competition for value appropriation usually happens in the stages of the value chain that are close to the customers, such as product introduction and marketing, while cooperation for value creation generally takes place in the early stages of the value chain such as R&D. In the S-LCD case, for example, the two companies collaborate effectively in R&D and manufacturing while maintaining intense competition with each other in the end product market.

Also, there is a time dimension to the duality of cooperation and competition (Clarke-Hill et al., 2003). Value creation and value appropriation do not need to happen at the same time. The inherent tension and complexity with managing simultaneous competition and cooperation lead to the speculation that firms may compete more in one time period but cooperate more in another time period. In other words, co-opetition with the same partner competitor in the same value chain stage (or geographic market) at the same time might indeed be very rare, representing an “ideal type” of which only a small number of features may be present in a given situation. For example, in the S-LCD case, while Samsung and Sony have collaborated for the development and manufacturing of the LCD panels, Samsung has two of its own separate seventh generation LCD plants, thus effectively competing with the S-LCD. As illustrated in Figure 38.1, various dynamics of collaboration and competition at multiple levels are evident between Samsung and Sony, thus making the co-opetitive relationship extremely challenging for both firms and interesting from the analyst's viewpoint.

Conflicts between competition and cooperation can sometimes become extremely severe, inducing the dissolution of balanced co-opetitive relationships. Successful learning from competitors requires effective organizational learning as well as measures of self-defense (Hamel, Doz, & Prahalad, 1989). Centralization and formal hierarchical factors impede knowledge sharing in co-opetition, while informal lateral relations promote it (Tsai, 2002). Sometimes, an intermediary organization (e.g., government authority, trade association, etc.) can play the facilitator role to ensure co-opetition relationships can be established and maintained to achieve fruitful results. Case studies of the VLSI semiconductor research project in Japan (Sakakibara, 1993) and the Finnish diary industry (Bengtsson & Kock, 2000) provide empirical support for such a suggestion.

Outcomes

The economic outcomes of co-opetition can be studied at firm, bilateral, multilateral, and industry levels. In particular, Lado et al. (1997) submitted that firms that can effectively formulate and implement co-opetition strategies with their stakeholders can achieve superior economic

performance based on the combination of both competitive and cooperative advantages. Sakakibara (1993) found that clear evidence of benefits is a critical determinant of success in co-opetition, suggesting that it is important to select appropriate projects for co-opetition relationships.

Although no large-scale empirical research has been conducted to systematically examine the performance outcome of co-opetition strategy, case studies, and anecdotal experience provide support for such a proposition. For example, the S-LCD case illustrates that both Samsung and Sony have benefited greatly through their co-opetitive relationship. As illustrated in Figures 38.1 and 38.2, Samsung seems to have benefited substantially from co-opetition, as it has been able to gain market share in the LCD TV market. The S-LCD partners are ahead of the other industry players in investing in the LCD technology. So the investment gap between S-LCD and the rest of the industry has widened considerably with the new eighth generation plant (with 50,000 units per month). Sharp is the only another company that has an eighth generation plant and produces 30,000 panels per month. Outcomes of this co-opetitive relationship seem to go beyond the firms and have led to intensified battles between LCD and plasma technologies in flat screen TV. Plasma leads LCD in 50-inch or larger TV screens, but the eighth generation plant of S-LCD is challenging that. Price and size—two major considerations of the recent past—are becoming less of an issue as LCD TVs are bigger and cheaper and are really starting to compete with those of similar size plasma TVs.

It is also possible that a firm that is better prepared for co-opetition, that is, has the necessary mind-set, resources, and capabilities will benefit more from co-opetition. Firms that pursue a proactive strategy (e.g., being the first mover or a close follower in their industries), have a superior resource base (thus making them an attractive competitor partner), and have managers that can handle paradoxical approaches to management are more likely to engage in co-opetition and likely to benefit more from co-opetition (Gnyawali & Park, 2007).

CONCLUSIONS AND FUTURE DIRECTIONS

Overall, it is clear that academic research and business experience provide clear evidence of the growing popularity of co-opetition. Firms in many industries, especially those in high-technology industries, need to explicitly consider co-opetition as part of their strategy tool set. In other words, just as strategists think about how to outcompete a rival in their industry (competitive strategy) and about how to pursue and manage collaborations (cooperative strategy), they need to pursue ways in which they can simultaneously engage in collaboration and competition. Many challenges remain, however, for both academics and managers. As we look forward at the future of co-opetition, we identify the following two specific questions that managers and

researchers could address in the future, in the process surfacing some intriguing issues about co-opetition.

First, how do industries, firms, and managers differ in how they draw a line between collaboration and competition? Although we have made a distinction between co-opetition and collusion at the conceptual level, drawing a clear line between the two in practice can be a challenging task. At the industry level, what forces drive the parties to move from the competitive end to the collaborative end of the co-opetition continuum or vice versa? If competition is viewed as short-term fighting for a share of the pie and cooperation is viewed as longer term working together to increase the size of the pie, one way to analyze this is in terms of Axelrod's (1984) shadow of the future. In this context, Axelrod argued as follows:

But the future is less important than the present for two reasons. The first is that players tend to value payoffs less as the time of their obtainment recedes into the future. The second is that there is always some chance that the players will not meet again . . . For these reasons, the payoff of the next move always counts less than the payoff of the current move. A natural way to take this into account is to cumulate payoffs over time in such a way that the next move is worth some fraction of the current move (Shubik, 1970). The weight (or importance) of the next move relative to the current move will be called w . It represents the degree to which the payoff of each move is discounted relative to the previous move, and is therefore a discount parameter. (pp. 12–13)

Given Axelrod's (1984) framing of the discount parameter for future-oriented cooperation, this particular research question may be restated as the following: What are the ways in which new technologies and competitive structures may conspire to change w so as to increase the incentive to cooperate?

At other levels, some managers and firms may be more psychologically and organizationally adept at managing the dynamic tension that is at the core of co-opetition. For example, early positive experience with co-opetition may predispose firms to future collaborative efforts involving rivals. There may be cultural (at the firm, industry, and national levels) and institutional factors (e.g., antitrust framework) that influence such differences in co-opetition perceptions and skills. For example, Jorde and Teece (1990) suggested that cooperation among competitors in technological innovation might not necessarily be anticompetitive. Co-opetition might bring unique products and create new markets for them and may develop integrative technologies so that consumers can buy fewer but well functioning products. Co-opetition in standards-based industries among a group of firms may lead to group versus group competition (Gomes-Casseres, 1994), which may be even more intensified form of competition. Thus, it is possible that co-opetition to create value (or bring major new technologies and products) is not problematic, but cooperation among a set of competitors to take customers directly away from another set of competitors may

be problematic. Overall, more in-depth knowledge of the dynamics of co-opetition will benefit firms who engage in co-opetition as well as policymakers concerned with balancing competition and cooperation.

From the institutional viewpoint, the antitrust framework may be a critical element in this regard. It may not be easy to define whether the value created by competitor partners through collaboration is truly based on innovation and efficiency and not based on squeezing value from other stakeholders. It is also likely that competitor partners—through intensive co-opetition—can establish tacit collusions based on increased mutual understanding of each other's strategic intents and capabilities. In our brief discussion of the historical roots of co-opetition, we touched upon how it has influenced public policy especially in the antitrust arena. The antitrust framework in many countries is today more supportive of precompetitive collaboration (e.g., in basic R&D) than in earlier periods. For example, the U.S. Department of Justice has published guidelines for horizontal cooperation JVs. Influenced as it is by political mood and cultural context, the enforcement of antitrust laws vary from country to country, and the prevailing attitudes toward co-opetition are no exception—thus, some observers have argued that Japanese and European antitrust frameworks are more open to co-opetition than their U.S. counterpart (Jorde & Teece, 1990). As the nature and extent of co-opetition evolves over the years, antitrust policy will also need to keep pace, suggesting that co-opetition is potentially an interesting topic of study for legal scholars as well as for scholars of strategy and organization.

Second, how can parties engaged in both high competition and high collaboration simultaneously manage the paradox operationally? As managers acknowledge the importance of co-opetition strategy, they also face the challenges of managing co-opetition on a daily basis. The challenge is many-fold. At the simple psychological level, the need for cognitive balance makes it likely that demands to compete and collaborate with the same other will place an individual at risk of cognitive dissonance. Given the importance of trust in alliance relationships, this is not an easy issue to address. At the organizational level, designing appropriate processes for sharing the right type and level of information so that cooperation goals are effectively met without the loss of competitively sensitive information is not going to be easy (Madhavan, 1993). Potential solutions may involve modularly separating cooperation and competition activities, with the integration being done at the senior most levels of the organization. The cross-level implications of co-opetition (e.g., friendship ties among employees of rival firms) are also relevant here: Such a situation may simply instantiate the phenomenon of socially embedded competition, or the firm may purposefully pursue such *cross-level co-opetition* to its advantage. A key part of the solution is the need to develop a co-opetitive mind-set for the effective management of the paradoxical nature of co-opetition (Chen, 2007). Lado et al. (1997) clearly suggested that a top management team's posture in promoting or discour-

aging employees' co-opetitive behaviors affect the firm's ability to engage in such behavior. Research and practice show that the way managers think and the kind of mental models managers possess greatly influence their behaviors. Therefore, it is important that executives and managers make systematic efforts to develop co-opetition mental models. Elements of such a co-opetition mental model might include recognizing the importance of co-opetition, scanning the environment for co-opetition opportunities, and developing ways to effectively engage in actual collaboration relationships with competitors.

In conclusion, this chapter has discussed the important strategy construct of co-opetition, outlining its intellectual lineage and practical relevance. We began with a detailed illustration of collaboration between two fierce rivals, Samsung Electronics and Sony, which illustrated why firms engage in co-opetition as well as the kinds of dynamics and challenges firms face when they collaborate and compete at the same time. Next, introduced a framework for thinking about co-opetition, provided a summary of the literature and an exploration of the drivers, processes, and outcomes of co-opetition, and sketched two broad research directions that can strengthen and enrich the co-opetition construct. Thus, we hope that this chapter has provided a concise summary of a critically important topic that is bound to assume even greater prominence as global competition intensifies in a broad range of industries and managers search for "new game strategies."

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BUSINESS IMITATION

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Imitative behavior is pervasive in the business world, where it can be observed across a wide range of business decisions. For example, firms often imitate new products and processes introduced by others. Imitation is also prevalent in the adoption of managerial methods and organizational forms, and in the timing and choice of new technology, market entry, and other investments.

Not surprisingly, if a firm's product or service proves successful in the marketplace, competitors will try to imitate it. This is the most common type of business imitation. The innovating firm's profits will tend to fall as the imitation takes place. To prevent or reduce this erosion, the innovating firm may be able to create barriers to imitation using various methods, such as patents, copyrights, and secrecy. The firm may also strive to improve its products, thereby staying ahead of rivals. This type of imitation—where a clearly successful product or service is imitated—is a fundamental part of the competitive process. Successful firms may devote much time and effort to try to prevent imitation, and follower firms may work equally hard at copying. Nevertheless, this type of imitation is fairly straightforward, and its basic features are well understood.

Other types of imitation are more complex in their motivations. These forms of imitation can sometimes lead to extreme industry dynamics and outcomes. For example, we saw an unusually large number of firms began conducting sales via the Internet in the late 1990s. The surge of entry attracted more new entrants, promoted by the optimistic

prospects of Internet analysts. In mid-2000, however, the Internet “bubble” collapsed. Internet stock prices crashed and firms disappeared from the market. The dramatic rise and fall took place within the span of just 2 or 3 years, much faster than the rate at which concrete data emerged on the long-term prospects for Internet commerce.

Similar “bunching” of entry has been also observed in an international context. Studies have found that when a firm makes a decision to enter a foreign market, sometimes its rivals will follow with the same decision. This can lead to rapid development of the market, which is potentially to the benefit of everyone, or to lower profits if an excessive number of firms enter at the same time.

After firms have entered a market, they may imitate others' technology choice. In the early market for VCRs, for example, almost all of the Japanese producers focused their development efforts on magnetic tape as the storage medium, while United States and European counterparts developed different media. Early convergence among the Japanese manufacturers resulted in acceleration of development and improvement of product quality, which enabled the Japanese producers to dominate the global market.

While imitation and convergence in technology benefited the Japanese VCR manufacturers, if the wrong path is chosen, imitation can be costly for firms and for society. In high-definition television (HDTV), the Japanese electronics firms adopted analog technology in the 1980s and heavily promoted its development. The Japanese producers imitated

each other's innovations, which helped improve the analog technology, but eventually it became clear that the analog approach was inferior to digital, which was being pursued in other countries. Despite their dominance in many areas of consumer electronics, the Japanese firms found themselves at a serious disadvantage in world markets for HDTV, and the growth of this technology worldwide was probably hampered as a result.

Organizational innovations are also imitated. For example, Fligstein (1985) studied the causes of the dissemination of the multidivisional form among large U.S. firms from 1919 to 1979 and found that firms were more likely to alter their organizational structure to the multidivisional form when other firms in the industry did so. Today, the multidivisional form is widely considered as a superior organizational form for many companies, so its imitation was mostly beneficial. However, imitation has also led firms to adopt short-lived management fads and to devote substantial resources to their implementation. Corporate programs for "reengineering," "employee empowerment," and "management by objectives" were popular in the 1980s and 1990s, but have been largely been forgotten today.

As these examples reveal, imitation may have positive or negative implications for individual firms and for society. In some cases, such as imitation of a clearly superior process innovation, quick and widespread adoption is likely to be widely beneficial (although perhaps not for the pioneering firm). In other cases, imitation may lead firms astray, sometimes with dramatic outcomes. As the VCR and HDTV examples suggest, imitation may spur productive innovation, or it may amplify the errors of early movers. Only in retrospect can we see clearly whether the effects of imitation have been positive or negative in any given case.

Despite its frequent occurrence, the reason why imitation occurs is often not obvious. When the behavior of the first mover is clearly successful—that is, when it is apparent that the new business is growing, the foreign market is expanding, the new product is getting popular, or the technology is rightly chosen—it is natural for other firms to imitate the first mover. However, for most of the examples just described, this is not the situation. There is often much uncertainty about whether the behavior of the leader should be followed. Indeed, many leaders are later found to have pursued the wrong path. Then, why do firms imitate others? What is the motivation for imitation?

Various theories have been proposed on the causes of imitation, as we discuss here. A firm may imitate to avoid falling behind its rivals; such imitation reduces the risk faced by the follower firm. Alternatively, a firm may mimic its rival's actions, because the firm believes that the rival has valuable information, and its actions convey that information. Moreover, depending on circumstances, matching of rivals' actions can intensify competition or have the opposite effect by promoting collusion. Thus, in some cases firms may imitate to restrain competition and thereby attain abnormal returns.

We organize theories of business imitation into two broad theories: (a) *information-based theories*, where firms follow others that are perceived (sometimes erroneously) as having superior information, and (b) *rivalry-based theories*, where firms imitate others to maintain competitive parity or limit rivalry. The next two sections of this chapter describe the information- and rivalry-based theories, respectively. We then discuss problems of identifying these two types of imitation. The task is made difficult by the fact that both types of imitation can arise simultaneously, and they can be hard to distinguish from the nonimitative case where firms respond independently but identically to the same external shock. The final section of the chapter considers various performance implications of imitation.

INFORMATION-BASED THEORIES OF IMITATION

Information-based theories of imitation have been proposed in various fields such as economics, institutional sociology, and population ecology. These theories apply in uncertain and ambiguous environments. Managers may be unsure of the likelihood of possible outcomes, and they may have more fundamental difficulties recognizing cause-effect relationships and the full range of potential consequences. In such environments, managers are particularly likely to be receptive to information implicit in the actions of others. Such information, while highly imperfect, can have a strong influence on managerial perceptions and beliefs. Moreover, in uncertain environments managers may imitate to signal others about their own (or their firm's) quality.

Economic Theories

Economic theories of imitation, where the information component has been developed most explicitly, are theories of herding or herd behavior. The most prominent economic theory of herd behavior is called "information cascades" or "social learning" (Banerjee, 1992; Bikhchandani, Hirshleifer, & Welch, 1992). Information cascades occur "when it is optimal for an individual, having observed the actions of those ahead of him, to follow the behavior of the preceding individual without regard to his own information" (Bikhchandani et al., 1992).

Suppose that each individual receives either kind of signal, A or B, and sequentially decides whether to adopt or to reject a certain project. Signal A is more likely when adoption is desirable, while signal B is more likely when adoption is undesirable. The first individual decides based on her signal. That is, she adopts the project if she receives signal A, while she rejects it if she receives signal B. The second individual makes a decision after observing the decision of the first individual. If the second individual observes the first adopting, he thinks that the first individual received signal A. Then, if he also receives signal A,

he adopts the project. If he receives signal B, on the other hand, he is indifferent between adopting and rejecting the project, and he tosses a coin to decide. The third individual faces one of the three possible situations: both predecessors adopt, both reject, or one adopts and the other rejects. In the first two cases, it is rational for the third individual to follow predecessors' decisions, regardless of the signal he receives. That is, the third individual is in an information cascade. Specifically, if the first two individuals have adopted, the third individual concludes that the first individual received signal A, and the second received signal A with 75% probability. Even if the third individual received signal B, the logical inference is that both predecessors likely received A, and hence the third individual will adopt.

Moreover, the decision of the third individual does not transmit any information to individuals that follow. Followers will decide based only on the first and second decisions. Thus, in information cascades, individuals imitate others, ignoring their private information.

A typical example is a restaurant with a long queue that becomes increasingly popular. Many of those waiting at the end of the line may have intended to visit other restaurants with which they are familiar, but they are swayed by the observation of the queue, which suggests (perhaps erroneously) that the restaurant is of high quality. Thus, decision makers may choose to go against their initial signals as they draw inferences from the observed behavior of others.

Such processes help to explain how the Internet bubble happened. Consider an entrepreneur contemplating a new retail venture, with an initial preference for "brick and mortar" outlets rather than Internet-based sales. Observing a surge of entry into the Internet sector (supported by the enthusiastic forecasts of analysts, the trade press, and rising stock prices), the entrepreneur concludes that perhaps others have superior information about the prospects for Internet retailing. Eventually, the observed signals grow in strength relative to the entrepreneur's prior belief, and the entrepreneur decides to follow others and enter the Internet sector.

As more entrepreneurs are persuaded by such observations, the wave of entrants grows. But such processes are inherently fragile and subject to reversal. Just as a critical mass of positive actions is needed to start the cascade upward, if a sufficient number of negative signals emerge, the process will reverse. This may characterize the collapse of the Internet bubble in mid-2000, as pessimistic assessments began to appear and grew rapidly. Internet stock prices fell to a fraction of their previous levels and entry came to a virtual halt.

In driving such a bandwagon, the actions of some individuals or firms may be weighted more strongly than others. If some are perceived as likely to have superior information, they can become "fashion leaders." For example, small firms may follow larger rivals if they believe the latter to be better informed. Similarly, firms that have been successful in the past are more likely to have their actions imitated. In

the case of Internet retailing, the entry of prominent firms such as Barnes & Noble and Wal-Mart, and the enormous stock-price gains of Amazon helped legitimize the efforts of other retailers to quickly establish a presence on the Web.

A second economic theory of herd behavior is based upon the idea that managers ignore their own private information and imitate the decisions of others in an effort to avoid a negative reputation. By imitating, managers send signals to others about their own quality. Suppose that there are superior and inferior managers who have private information about investment. Outsiders do not know the type of each manager, but only that superior managers receive informative signals about the value of the investment while inferior managers receive purely noisy signals. Since the signals superior managers receive might be misleading, outsiders must not only rely on the outcome of the investment, but also on behavioral similarity among managers. Outsiders consider that managers who make the same decision as others are likely to be superior because the signals superior managers receive are correlated. Therefore, in order to be evaluated as a superior type, managers ignore their own information and imitate others (Palley, 1995; Scharfstein & Stein, 1990).

This theory may help to explain the herd behavior of analysts and institutional investors in driving the Internet bubble upward. Financial actors are often evaluated on performance relative to peers; those who deviate from the consensus and ultimately prove to be wrong are likely to suffer a fatal loss of reputation. During the rise of the bubble, it was widely believed that the leading Internet analysts had superior signals, which led them to be optimistic about the future of many Internet companies. Those who did not follow were often shunned for their failure to grasp the fundamental dimensions of the "new economy." Under these circumstances, less-informed analysts and investors often chose to join with the crowd, pushing Internet stock prices higher. This example of the Internet bubble shows how the second economic theory of herd behavior can complement the first: Information cascades likely contributed to the emergence of the trend, which was further sustained by reputation-based signaling on the part of analysts and investors.

Theories of Organizational Sociology and Ecology

Organization theory gives a related explanation for behavioral similarity: institutional isomorphism. DiMaggio and Powell (1983) argue that rational actors make their organizations increasingly similar when they try to change them. This process of homogenization is captured by the concept of isomorphism. Isomorphism is a constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions.

Among three kinds of institutional isomorphism (coercive, mimetic, and normative isomorphism), mimetic isomorphism is the process whereby organizations model

themselves on other organizations when the environment is uncertain. The modeled organization is perceived as more legitimate or successful. Such mimetic behavior is rational because it economizes on search costs to reduce the uncertainty that organizations are facing. Empirical studies have shown the operation of mimetic isomorphism in a variety of organizational domains such as adoption of a new organizational structure (e.g., Fligstein, 1985) and diversification.

Mimetic isomorphism can be viewed as rational imitation of a superior organization, although sociologists often emphasize ritualistic rather than rational motivations. Once enough social actors adopt a certain behavior, the behavior is taken for granted or institutionalized, and thereafter, other social actors will adopt the behavior without thinking. Imitation and proliferation of quality circles and the multidivisional form are examples. Institutionalization can be viewed as a threshold effect that occurs once a critical mass of firms have adopted. In this sense, it bears resemblance to the information cascades theory.

The sociological theory differs from information cascades in that once a behavior is institutionalized, organizations are slow to respond to new information. Behavior is much more durable than in the economic theory where new information can lead to sudden reversals. Information cascades can be fragile, whereas the sociological theory points to the emergence of a permanent social order.

While the economic theory of information cascades allows for “fashion leaders,” organizational sociologists have probed in detail the issue of “who imitates whom.” Sociological studies indicate that a given firm’s propensity to be imitated increases with (a) the information content of its signal (where actions by larger, more successful, or more prestigious firms may be seen as more informative) and (b) the focal firm’s degree of contact and communication with other firms. Moreover, theories of social networks suggest that when organizations are linked by greater network ties, they are likely to have more detailed information about each other, which facilitates imitation. These firm and network characteristics often overlap: Organizations that are central in a network have links with the greatest number of others; such organizations also tend to be larger and more prestigious.

While the previous discussion emphasizes rational interpretation of signals, early and late movers may differ in their motivations. Sociologists suggest that late movers are often engaged in symbolic action and are merely seeking status. Such followers are not concerned about interpreting the signals of others; rather, by copying more prestigious firms, they seek to send a signal about their own legitimacy. This can enhance the firm’s relations with resource providers if the environment is uncertain. For instance, followers that entered Internet markets during the rise of the bubble were often able to raise large amounts of capital despite imitative strategies that later proved highly flawed. In such cases, status-seeking imitation can be viewed as rational behavior that benefits the firm and its owners, at least in the short run.

“Legitimation” is another concept of organization theory that is related to the cascade theories of economics. Scholars of organizational ecology have long noted that once a new industry has acquired a threshold number of entrants, the firms acquire a legitimacy that facilitates their growth (Hannan & Carroll, 1992). Banks, for example, become more willing to supply capital, and potential employees can be more easily hired. This expansion in the availability of resources, in turn, often leads to a further wave of entry. Thus, there is a threshold effect in entry processes, similar to the economist’s notion of an information cascade. One difference from the economic theory is that growth in the number of entrants increases legitimacy while also making competition more intense. The offsetting force of competition places a ceiling on the number of firms.

RIVALRY-BASED THEORIES OF IMITATION

A second set of theories regards imitation as a response designed to mitigate competitive rivalry or risk. Firms imitate others in an effort to maintain their relative position or to neutralize the aggressive actions of rivals. Unlike the theories discussed in the previous section, firms’ actions do not convey information. The theories relating to rivalry and risk have their primary origin in the fields of economics and business strategy.

Imitation to mitigate rivalry is most common when firms with comparable resource endowments and market positions face each other. In such cases, it is often difficult and risky for firms to differentiate their resources and market position from those of competitors. It is not certain that the differentiated market position and resources will be superior. Therefore, firms often choose to pursue not differentiation strategies but homogeneous strategies, where they match the behavior of rivals in an effort to ease the intensity of competition or reduce risk.

Homogeneous Strategies to Mitigate Rivalry

When resource homogeneity creates a potential for intense competition, matching behavior may be a way to enforce tacit collusion among rivals. In early research on strategic groups, it was suggested that firms within the same group behave similarly because “divergent strategies reduce the ability of the oligopolists to coordinate their actions tacitly...reducing average industry profitability” (Porter, 1979, p. 217). In other words, firms within the same strategic group may adopt similar behavior to constrain competition and maintain tacit collusion. More recent work in strategy gives similar predictions. Studies on action-response dyads suggest that matching a competitor’s move indicates a commitment to defend the status quo, neither giving up the current position nor falling into mutually destructive warfare (Chen & MacMillan, 1992).

The hypothesis that firms adopt similar behavior to mitigate rivalry can be also derived from studies on

multimarket contact (Bernheim & Whinston, 1990). When firms compete with each other in many markets, they can more easily sustain collusion, because deviations in one market can be met by aggressive responses in many places. This is the idea of “mutual forbearance.” The multimarket contact theories suggest two ways that competitors may imitate: (a) They may respond to a rival’s aggressive move in one market with a similar move in another market; (b) they may match rivals’ entry decisions in order to increase the extent of market contact.

Risk Minimization

Other researchers have proposed that imitation stems from rivals’ desire to maintain relative competitive position. One of the first documented examples was the bunching of foreign direct investment (FDI) as described in the introduction. Suppose that firms A and B compete in a domestic market and export their product to a foreign country, F. When firm A establishes a manufacturing subsidiary in F and firm B does not match, firm A can improve its performance at the expense of firm B if the FDI is successful. Firm A can drive out firm B’s exports from F’s market with the advantage of the local operation, or firm A can gain advantages over firm B in the domestic market if there are any economies of scope between domestic and foreign businesses. Of course, firm A’s FDI can be failure. Then, firm B may gain advantages relatively. Although it is uncertain whether or not firm A’s investment is successful, firm B’s performance greatly depends on the consequence of A’s investment. That is, failure to match is very risky. On the other hand, if firm B matches, it can gain the same advantages as firm A if the investment is successful. If the investment is a failure, B’s performance suffers to the same degree as firm A’s. That is, as long as they match each other, none become better or worse off relative to each other, and their competitive capabilities remain roughly in balance. Therefore, this imitative behavior can be interpreted as the result of risk minimization (Knickerbocker, 1973).

In “winner-takes-all” environments, rival firms may adopt similar behavior to prevent others from leading the race. For example, in research and development (R&D) competition, where the first inventor can obtain patent rights to a technology so that other firms cannot use it, R&D investments among firms are positively correlated. Similar winner-takes-all situations can arise when the market has bandwagon effects or network externalities (Katz & Shapiro, 1985). In markets for system goods composed of hardware and software such as PCs and audiovisual equipment, the technology format that gains a large installed base becomes a *de facto* standard and dominates the market—the winner takes all. Therefore, a format leader tries to ally with its rivals to increase the market share of compatible products, licensing out the technology. The rival firms supply compatible products (imitation) to avoid being left alone when the market tips in favor of the leader. Once a common industry standard has emerged, many firms and customers may choose to adopt it.

Adoption of standards, which benefits firms by minimizing cost, may appear as a form of imitation.

DISTINGUISHING AMONG THEORIES

The information- and rivalry-based theories described previously are not mutually exclusive; both types of imitation can occur simultaneously. Firms may imitate rivals to maintain competitive parity and also out of belief that rivals may possess superior information. Nevertheless, one type of imitation or the other is apt to be predominant in any given context.

To distinguish between information-based and rivalry-based imitation, three criteria may be applied:

1. Do leaders and followers compete in the same market or niche?
2. Do leaders and followers have similar size or resources?
3. Is the environment highly uncertain?

The first two criteria, market overlap and resource similarity, establish whether the leader(s) and followers compete as rivals. Rivals have strong overlap in product lines and geographic market coverage. Often they have similar resources, and they may share similar origins and history.

If the firms are not rivals, the follower can be judged to have information-based motives for imitation. In general, information-based motives are likely to be dominant when firms differ in market position, size, or resources or when uncertainty is very high. Asymmetry limits rivalry and raises the likelihood that some firms possess superior information. High uncertainty implies that managers lack strong initial judgments about the likely success of alternative paths and are therefore more open to external sources of information. Furthermore, patterns may be observed—small firms following larger firms or general imitation of successful firms—suggesting that the imitation process is information based.

If firms do compete as rivals, both types of imitation may coexist. Even so, rivalry-based motives are likely to predominate when uncertainty is low, or when competitors are closely matched—such firms often have similar information but strong rivalry. Multimarket contact further increases the likelihood of rivalry-based imitation, as it expands the domains where imitation can occur and raises the probability that firms respond to each other in kind. Firms that are closely matched may also be risk averse, particularly to loss of market share, a condition that is necessary for some types of rivalry-based imitation.

The criteria do not provide a perfect guide to distinguish between information and rivalry motives. Indeed, when firms are direct competitors, the two sets of motives may be closely intertwined. Strong rivals that share common technology, organization, and market orientation may be particularly informative to each other.

IDENTICAL RESPONSE TO COMMON ENVIRONMENTAL SHOCK

As just argued, the characteristics of firms and their industry environment provide some basis for distinguishing between information- and rivalry-based imitation processes. One complication is that both types of imitation can occur simultaneously, even though one type is usually predominant. A further complication is that what appears to be imitation may simply be firms' independent responses to a common external stimulus.

As an example, consider an economic recession that induces many firms to lay off part of their workforce. Such layoff decisions are primarily based on forecasts of future sales. To the extent that firms are subject to the same demand fluctuations and have access to the same public information about macroeconomic conditions, one would expect them to make reasonably similar and simultaneous cutbacks. To regard such behavior as imitation would clearly be incorrect.

Some degree of imitation may nevertheless occur in such situations, stemming from information or rivalry motives (or both). For example, firms may look to the announcements of others as a source of information about the likely depth of the recession in their industry. Moreover, if rivals have not yet announced layoffs, a firm may be reluctant to act alone for fear that it could lose competitive position. In such instances, once one firm announces cutbacks, others may follow suit.

Thus, we often observe the confluence of both imitative and nonimitative responses to external shocks. Since imitation takes some time, behavior that is simultaneous cannot be imitation. However, the time lag for imitation varies depending on the characteristics of the imitated behavior and the imitating firms. Therefore, clear-cut identification of imitative behavior represents a thorny problem for business researchers attempting to characterize imitation processes.

Resource Similarity and Complexity

Imitation processes are also influenced by resource constraints that limit the scope of firms' behavior. Firms with very different resources and capabilities may be unable to behave similarly even if they face the same environment. For example, small firms may desire to match the investment behavior of large firms but lack the resources necessary to do so. Since firms with similar resources are often direct rivals, resource constraints can make it appear that rivals are responding to each other, even though their actions may be independent responses to a common environmental shock.

Complexity serves as a further constraint on imitative behavior. Firms with adequate resources can easily copy simple actions but not complex repertoires containing many elements, particularly when tacit skills are involved. For example, in recent decades, many auto companies have tried to copy the Toyota production system. Most have been

able to adopt some elements of the system, but few have mastered the many subtleties needed to approach Toyota's production efficiency.

PERFORMANCE IMPLICATIONS

Many examples in this chapter show that imitation can have amplification properties that make outcomes more extreme, with consequences that may be good or bad for firms and for society. On the positive side, information-based imitation can speed the adoption of useful innovations, and rivalry-based imitation can spur firms to improve their products and services. Both types of imitation have negative implications if they lead firms to squander resources on wasteful, duplicative investments. Thus, the two modes of imitation can have similar effects, although there can also be important differences.

Performance Implications of Both Imitation Types

Imitation processes lead firms to converge on common choices more rapidly and in larger numbers than they would otherwise. The consequences, when beneficial, are usually straightforward, but when negative they are often dramatic. Industries may lock in to inferior choices or greatly overshoot the optimum level of investment.

If early movers have chosen a productive path, imitation accelerates the industry's convergence on a good solution. Imitation can help to promote network effects and common standards, with broad potential benefits for firms and consumers, as in the VCR example cited earlier. If the wrong path is chosen, however, imitation can be costly for firms and for society, as in the case of Japanese HDTV.

These examples illustrate the fact that imitation raises the odds of extreme outcomes when the environment is uncertain. If the leaders have superior information and luck, imitation leads to quick convergence on superior choices and is socially beneficial. Rivalry and shared learning may stimulate firms and accelerate progress. On the other hand, if the path that is imitated proves inferior, imitation can create an industrywide "competency trap" (Miner & Haunschild, 1995). By comparison, when firms act independently, they converge more slowly, but such diversity avoids the worst industry outcomes and is collectively more robust.

Thus, by reducing variation in firms' strategies and technological paths, imitation raises the collective risk of an industry. When firms imitate each other in an uncertain environment, they place identical bets on the future, thereby raising the odds of large positive or negative outcomes. As a result, society bears higher risk, even though individual firms may diminish their own risk of falling behind rivals.

Imitation tends to be socially beneficial—and potentially profitable—in situations where the imitators complement each other. Complementarities often arise in environments with network externalities or agglomeration economies. For

example, Baum and Haveman (1997) found that hoteliers tend to locate new hotels close to established hotels. Agglomeration of hotels attracts people, goods, and services, and consequently, it increases the attractiveness and reputation of the location. This is beneficial to society as well as to the hotels. At the same time, though, the close location of hotels can intensify price competition, making hotels less profitable. Thus, for imitating firms, the benefits of network effects, agglomeration economies, and other positive externalities can be offset by pressure for price competition. In other words, imitating firms have to think about what they imitate and what they differentiate carefully. Hotels may imitate others in terms of location in pursuit of agglomeration economics while they may differentiate from others in terms of target customer to avoid intense price competition.

Performance Implications of Information-Based Imitation

While both types of imitation can have amplification effects, dramatic negative outcomes are more likely under information-based imitation. The information cascades theory is explicit about the potential for bubbles and sudden reversals. Other work in organization theory shows how lags in learning processes allow bandwagons to grow. The risk of inferior outcomes is greatest if managers perceive a need to commit before major uncertainties are resolved. For example, in the 1990s many entrepreneurs believed that early entry into the Internet sector was a requirement for business success. Eventually, as more information emerged about the prospects for Internet businesses, stock prices collapsed, and many firms failed. In retrospect, it is clear that much of the initial rush had been unnecessary and that it contributed to the magnitude of the collapse. Had more firms waited until major uncertainties resolved, many losses could have been avoided.

Individual firms fail when they attempt to imitate a successful leader but prove incapable of doing so. Smaller firms may imitate in an effort to elevate their status or legitimacy, despite a lack of resources to do so successfully (Fligstein, 1985). Moreover, even large firms may imitate the superficial features of complex innovations while failing to replicate more subtle but essential elements. Thus, followers fail when they lack critical resources, or when complexity, tacitness, and causal ambiguity prevent them from gaining a sufficient understanding of the innovations made by the target firm.

Performance Implications of Rivalry-Based Imitation

The theories presented earlier suggest that rivalry-based imitation can reduce the intensity of competition in an industry, or increase it. Here again we have possibilities for diametrically opposite outcomes. Theory offers some basis for predicting which outcome will prevail: Collusion becomes more likely when firms have multimarket contact,

whereas competition is promoted in winner-take-all environments. One conclusion is that intensification of competition is most common, but either type of response can arise depending on aspects of firm interaction and history that can be subtle and difficult to observe.

To say that imitation may enhance either competition or collusion may, however, be too simple. Rivalry-based imitation often proceeds over many rounds where firms repeatedly match each other's moves. This process can strengthen firms that imitate relative to those that do not. Such imitation leads to differential performance among groups of firms and can create barriers to entry. If innovation is promoted and prices fall, the process is beneficial to consumers, but if only a few firms survive, it can lead to an increase in market power.

The electronic calculator industry provides one example. Casio and Sharp, the market leaders in Japan, responded to each other by introducing many new product features and cost reductions, leading to market growth and gains to consumers. Similarity of product and market position made each firm a good reference for the other, which facilitated learning. Ultimately, the accumulation of product enhancements enabled Casio and Sharp to drive out their American rivals who had pioneered the basic technology.

Another example is Coke and Pepsi, which matched each other's advertising, promotion, and new product moves in the U.S. soft-drink market over many decades. Challenging and learning from each other, the two rivals became progressively stronger, squeezing out smaller producers while maintaining high profitability. One feature of the soft-drink industry is that it supports many dimensions of multimarket contact (over products, regions, etc.), which may have helped Coke and Pepsi to signal each other and prevent mutually destructive warfare.

SUMMARY

We have surveyed theories of business imitation and have shown that they fall into two broad categories: information-based theories and rivalry-based theories. These two types of imitation often have different implications, although both have amplification properties that can make outcomes more extreme. Information-based imitation can speed the adoption of superior products and methods, or it can lead to dramatic failures if firms' choices prove erroneous. Rivalry-based imitation can reduce risk and facilitate collusion although more commonly it intensifies competition. In the latter case, imitation may proceed over many rounds, strengthening firms if they have chosen a productive path or leading them further astray if they have not.

We have suggested some ways to distinguish between information-based and rivalry-based imitation, but this is not an easy task. Several problems make identification difficult. Firms may respond identically (but not imitatively) to common environmental shocks. Moreover, the two types of imitation often coexist, and distinguishing characteristics

may be hard to assess objectively. Identification of imitation processes therefore remains a vexing challenge in many business contexts.

Note this chapter has been significantly adapted from Lieberman and Asaba (2006), which provides additional detail and references.

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PART VI

OPERATIONS MANAGEMENT WITH NEW TECHNOLOGIES IN A GLOBAL CONTEXT

SUPPLY-CHAIN MANAGEMENT

Integration and Globalization in the Age of e-Business

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Supply-chain management (SCM) refers to the management of materials, information, and funds across the entire supply-chain, from suppliers through manufacturing and distribution, to the final consumer. It also includes aftersales service and reverse-product flows such as handling customer returns, recycling of packaging and discarded products (see Figure 40.1). In contrast to multiechelon inventory management, which coordinates inventories at multiple locations of a single firm, or traditional logistics management, SCM involves coordination of information, materials, and financial flows among multiple firms.

SCM has generated substantial interest in recent years for a number of reasons. Managers in many industries now realize that actions taken by one member of the chain can influence the profitability of all others in the chain. Competition has moved beyond firm-to-firm rivalry to supply-chain against supply-chain. Also, as firms successfully squeeze inefficiency from their own operations, the next opportunity for improvement is through better coordination with suppliers and customers. During the 1970s and 1980s, global competition forced many manufacturing companies to improve the quality of their products and reduce their manufacturing costs. With 20 years of progress, many of

these manufacturers found that the biggest challenges they faced in the new millennium were outside of their immediate control, and solutions required better coordination with their upstream and downstream partners. While they have reduced their own costs, they found that costs of poor coordination could be very high. For example, both Procter & Gamble and Campbell Soup sell products whose consumer demand is fairly stable—the consumption of Pampers or Chicken Noodle Soup does not swing wildly from week to week. Yet both these firms faced extremely variable demand at their factories. After some investigation, they found that the wide swings in demand were caused by the ordering practices of retailers, wholesalers, and distributors. For example, a manager observing a small increase in consumer demand decided to place larger than usual orders at the retailer's distribution center. The distribution center managers, not knowing the actual store demand, yet seeing the increase in orders, placed even larger orders with the wholesaler to ensure product availability. The snowballing effect was off and by the time it hit the factory, the demand was greatly exaggerated (see Figure 40.2).

This phenomenon—termed the bullwhip effect—has many causes. Sometimes it is caused by supply-chain

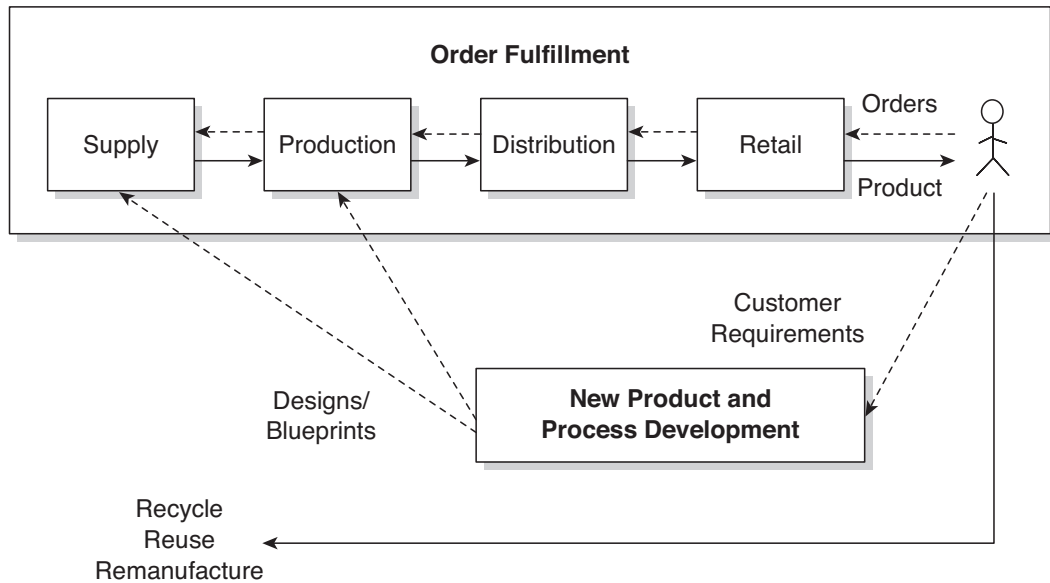


Figure 40.1 A Schematic of a Supply-Chain

members forecasting in isolation, as in the previous example. Order batching may also set the snowball rolling since changes in demand are hidden in the large batches. Some of these practices may be exacerbated by the marketing efforts of the company. For example, in the grocery industry, price promotions cause grocery chains to place very large orders, which is called forward buying. These spikes in demand ripple through the supply-chain causing shortages upstream while filling up downstream warehouses. Regardless of the cause, the end result is a greatly distorted demand signal for upstream members of the supply-chain. These large demand swings erode order fulfillment and drive up costs. Fortunately, as discussed next, the bullwhip can be tamed through an integrative approach that employs timely information shared by supply-chain partners and strong relationships that enable coordination.

Such interfirm integration, long the dream of management theorists, finally began gaining momentum in the late 1990s. Some would argue that managers have always been interested in integration, but the lack of information technology made it impossible to implement a more “systems-oriented” approach. Industrial-dynamics researchers dating back to the 1950s (Forrester, 1958) have maintained that supply-chains should be viewed as an integrated system. With the recent explosion of inexpensive information technology, it seems predictable that businesses would become more supply-chain focused. However, while information technology is clearly an enabler of integration, it alone cannot explain the radical organizational changes in both individual firms and whole industries. A sea change in management theory was needed as well.

Two fundamental catalysts have conspired over the past decade to initiate the required change in management theory. The first is the power shift from manufacturers to retailers. Wal-Mart, for instance, has forced many manufacturers

to improve their inventory management, and even to manage inventories of their products in Wal-Mart stores and distribution centers. Following Wal-Mart’s lead, most major retailers are asking suppliers to tighten up their inventory management and improve their order-fulfillment capabilities. Second, the Internet and associated e-Business initiatives are forcing managers to rethink their supply-chain strategies. e-Business facilitates the virtual supply-chain, and as companies manage these virtual networks, the importance of integration is magnified. Firms like Cisco, HP, and Amazon.com are superb at managing the flow of information and funds, via the Internet and electronic funds transfer. The challenge is to efficiently manage the flow of products.

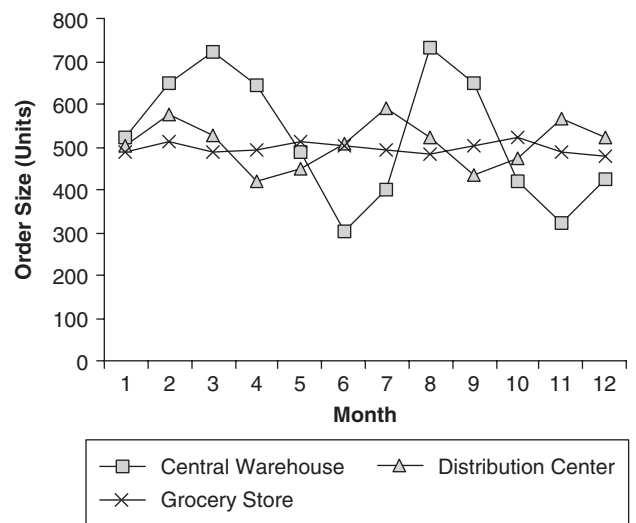


Figure 40.2 An Illustration of the Bullwhip Effect

Today, the forces of globalization and technology are further changing supply-chains. In many cases, the supply-chains are literally disintegrating in a physical sense. Product designers, marketers, and manufacturers that were previously located in a single facility are now spread over several continents in organizations with different cultures, languages, and business objectives. For example, not long ago, apparel brands such as Levi's did it all—operating their own U.S. production plants along with their core design and marketing activities. In the past few years, the company has shuttered the sewing plants that once dotted the southeastern United States and outsourced much of that production and even design. The same transition is also true for many other products, from PCs to lawn mowers. Ten years ago, Hewlett-Packard designed and manufactured PCs for regional markets in Europe and the United States. Now, designers, marketers, and assemblers are scattered across different geographies and firms.

These changes have brought new risks and challenges. Long-standing challenges, such as short product lives and uncertain demand, have become even more vexing. In some cases, the technologies and approaches for enhancing supply-chain competitiveness have been the subject corporate and public debate: supply-chain complexity leading to new risks of disruption; supply-chain efficiency generating complaints of price discrimination; low-cost sourcing creating job migration. Lean supply-chains reduce inventory cost but are more susceptible to such shocks as natural disasters or global pandemics; technologies that enable sophisticated pricing improve supply-chain efficiency but leave some customers crying foul; and outsourcing creates global winners and losers as shifting jobs leave some without work (Johnson, 2006).

KEY COMPONENTS OF SUPPLY-CHAIN MANAGEMENT

Supply-chain management is really a whole set of topics covering multiple disciplines and employing many management and engineering tools (Johnson & Pyke, 2001). Within the last few years, several textbooks on supply-chain have arrived on the market providing both managerial overviews and detailed technical treatments. For examples of managerial introductions to supply-chain see (Chopra & Meindl, 2001) and for logistics texts see (Stock & Lambert, 2001). For more technical, model-based treatments see (Silver, Pyke & Peterson, 1998) and (Simchi-Levi, Kaminsky, & Simchi-Levi, 1998).

Research in SCM has identified 12 distinct management areas that are associated with the subject. Each area represents a supply-chain issue facing the firm. For each area, we provide a brief description of the basic content and refer the reader to a few articles that serve as good sources for further reading. We also mention likely quantitative tools that may aid analysis and decision support. See Johnson

and Pyke 2000 for a more detailed description of these 12 areas with references to academic research, management and popular press stories, and related teaching cases.

The 12 categories we define are

- inventory and forecasting;
- marketing and channel restructuring;
- service and aftersales support;
- reverse logistics and green issues;
- location;
- transportation and logistics;
- outsourcing and logistics alliances;
- product design and new product introduction;
- information and electronic mediated environments;
- metrics and incentives;
- sourcing and supplier management; and
- global issues

Inventory and Forecasting

Inventory and forecasting includes techniques for ongoing inventory management and demand forecasting. Key to inventory management is understanding uncertainty. In almost every aspect of supply-chain planning, we are faced with risk and uncertainty. The observed result of this uncertainty is variability throughout the supply-chain that wreaks havoc on the firms' ability to serve customers and drives up costs. Uncertainty and the resulting variability we observe originate from several sources and then combine and propagate throughout the supply-chain. To begin with, planners are never absolutely certain when or what the customers will demand. This problem is further complicated by the fact that we do not know exactly what the competitors plan to do. On the other hand, partners in the supply-chain are not always as reliable. Suppliers often fail to meet delivery expectations, transportation providers run late, and logistics providers make mistakes. And, lest companies are tempted to blame others for their problems, internal processes are far from error free. Buyers forget to place orders or order the wrong quantities; warehouses lose materials; and factories ruin good parts. In the end, firms often find that we can't always supply whatever it is the customers want. Failing the customer erodes a company's brand equity in the market place and jeopardizes the value to all its stakeholders.

While we often refer to inventory in a generic way, there are actually many different types of inventory and ways to categorize it (Figure 40.3). Inventory helps companies achieve many different objectives including reducing costs, improving customer service, and financial hedging against market uncertainties. For a manufacturer, inventory arrives from suppliers as raw materials. Within the manufacturing process, the raw material is transformed through fabrications and assembly into finished good inventory. While in production, we usually refer to the inventory as work in process. The form of raw materials and work in process varies widely depending on the industry and product. For

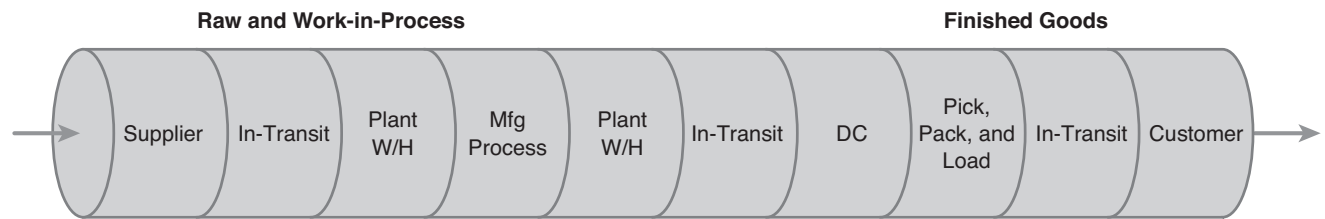


Figure 40.3 Types of Inventory

example, a glass manufacturer in the auto industry receives sand and other chemicals from suppliers, which is often transported by rail or barge. These materials are heated in a furnace to transform them into molten glass that is flowed into flat glass sheets. These sheets represent work in process. After cooling, these sheets are formed into finished products like windshields and side windows and transported by truck to the customer (an automotive assembler). For an assembly operation like PC manufacturing, the raw materials are subassemblies like hard disks, motherboards, CD/DVD drives, and housings that are assembled into finished PCs for customers.

The American Production and Inventory Control Society (APICS) defines six key functions of inventory:

- Pipeline (transport)
- Cycle (lot sizing)
- Decoupling
- Anticipation (seasonal)
- Hedging
- Safety

Pipeline inventory is needed simply to move products within the supply-chain. Cycle stock is inventory that results from batch processes. For example, machines often require large setups, and thus, it is economical to produce large batches of product creating inventory. The function of decoupling inventory is to allow two different machines within a factory or even two different factories to produce at different rates. Anticipation is a special type of decoupling where inventory is produced in anticipation of seasonal demand. For some raw materials, fluctuating market prices induce companies to buy inventory as a hedge against price increases. Finally, the key function of safety stock is to buffer against unforeseen changes in demand or supply.

Industrial engineers and operations managers have long employed statistical models for forecasting and inventory planning. Statistical measures of variability, like the standard deviation of forecast error, are fundamental to forecast improvement initiatives or to rational inventory policies. Inventory costs are often the easiest to identify and reduce when attacking supply-chain problems. Stochastic inventory models can identify the potential cost savings from, for example, sharing information with supply-chain partners, but more complex models are required to coordinate multiple locations. Of course there are many full texts on the subject

such as (Silver et al., 1998). Useful managerial articles focusing on inventory and forecasting include (Davis, 1993) and (Fisher, Hammond, Obermeyer, & Raman, 1994).

Marketing and Channel Restructuring

Supply-chain partners who resell products form the “distribution channel.” Marketing and channel restructuring focuses on these downstream partners. It includes critical decisions related to getting the products from a firm’s factories all the way into the customers’ hands. As with facility location, these decisions impact the supply-chain structure (Fisher, 1997) as well as define an interface with marketing (Narus & Anderson, 1996). While the inventory and forecasting category addresses the quantitative side of these relationships, this category covers relationship management, negotiations, and even the legal dimension. Most importantly, it examines the role of distribution strategy and channel management (Anderson, Day, & Rangan, 1997), affecting the availability of products at the retail level while defining the way information and materials flow through distribution.

Many industry initiatives (for example, efficient consumer response [ECR] in groceries or quick response in apparel) have focused on managing the channel as they strive to mitigate the bullwhip effect. The bullwhip effect has received enormous attention in the research literature. Many earlier studies argued that centralized warehouses are designed to buffer factories from variability in retail orders. The inventory held in these warehouses should allow factories to smooth production while meeting variable customer demand. However, empirical data suggests that exactly the opposite happens (see for example Baganha & Cohen, 1998). Orders seen at the higher levels of the supply-chain exhibit more variability than those at levels closer to the customer. In other words, the bullwhip effect is real and pervasive (see, Cachon, Randall, & Schmidt, 2005 for another view). Typical causes include those noted in the introduction, as well as the fact that retailers and distributors often overreact to shortages by ordering more than they need. H. L. Lee, Padmanabhan, and Whang (1997) show how four rational factors help to create the bullwhip effect: demand signal processing (if demand increases, firms order more in anticipation of further increases, thereby communicating an artificially high level of demand); the rationing game (there is, or might be, a shortage so a firm orders more than

the actual forecast in the hope of receiving a larger share of the items in short supply); order batching (fixed costs at one location lead to batching of orders); and manufacturer price variations (which encourage bulk orders). The latter two factors generate large orders that are followed by small orders, which implies increased variability at upstream locations.

Some recent innovations such as increased communication about consumer demand via electronic data interchange (EDI) and the Internet, and everyday low pricing (EDLP) (to eliminate forward buying of bulk orders) can mitigate the bullwhip effect. In fact, the number of firms ordering and receiving orders via EDI and the Internet is exploding. The information available to supply-chain partners and the speed with which it is available has the potential to radically reduce inventories and increase customer service. Other initiatives can also mitigate the bullwhip effect. For example, changes in pricing and trade promotions and channel initiatives such as vendor-managed inventory (VMI), coordinated planning, forecasting, replenishment (CPFR), and continuous replenishment (Waller, Johnson, & Davis, 1999) can significantly reduce demand variance. VMI is one of the most widely discussed partnering initiatives for improving multifirm supply-chain efficiency. Popularized in the late 1980s by Wal-Mart and Procter & Gamble, VMI became one of the key programs in the grocery industry's pursuit of ECR and the garment industry's quick response. Successful VMI initiatives have been trumpeted by other companies in the United States including Johnson & Johnson and by European firms such as Barilla (the pasta manufacturer).

In a VMI partnership, the supplier—usually the manufacturer but sometimes a reseller or distributor—makes the inventory replenishment decisions for the consuming organization. This means the supplier monitors the buyer's inventory levels (physically or via electronic messaging) and makes periodic resupply decisions regarding order quantities, shipping, and timing. Transactions customarily initiated by the buyer (i.e., purchase orders) are initiated by the supplier instead. Indeed, the purchase order acknowledgment from the supplier may be the first indication that a transaction is taking place; an advance shipping notice (ASN) informs the buyer of materials in transit. Thus, the manufacturer is responsible for both its own inventory and the inventory stored at its customers' distribution centers.

Because many of these initiatives involve channel partnerships and distribution agreements, this category also contains important information on pricing, along with antitrust and other legal issues. These innovations require interfirm, and often intrafirm, cooperation and coordination that can be difficult to achieve.

Service and Aftersales Support

The service and aftersales support category covers the important, but often overlooked, issue of providing service and service parts after the sale of the original product. Effective management of service parts inventories is often

critical to customer satisfaction. If a manufacturer of farm equipment stocks out of a key replacement part in the middle of harvest season, some farmers could face serious financial difficulties. Those farmers may never purchase equipment from that manufacturer again. Even worse, if the manufacturer develops a reputation for poor service, its market share will certainly decline dramatically. It seems evident, therefore, that companies would take service parts management very seriously. Unfortunately, this is often not true. The service parts management function is often sorely neglected with few resources, little senior management attention, and weak training for the people who are managing the day-to-day tasks. Some leading firms such as Saturn and Caterpillar build their reputations on their ability in this area, and this capability generates significant sales.

One might think that this is a standard inventory management problem that can be addressed with standard inventory models. The problem is that many service parts have very low demand rates. In one survey, for instance, researchers found that more than 50% of service parts had no global demand in 2 years, and the inventory turnover (the sales of a product divided by the average inventory) for all parts was between 1.0 and 3.5! Such low demand rates require models and procedures that differ from the standard approaches. A key difference is the appropriate probability distribution for slow demand rates. Furthermore, because many service parts systems have multiple tiers, requiring models of multilevel systems composed, say, of regional warehouses, local distribution centers, and dealers. While industry practice still shows much room for improvement, several well-known firms have shown how spare parts can be managed more effectively (Cohen, Agrawal, & Agrawal 2006).

Reverse Logistics and Green Issues

Reverse logistics and green issues are emerging dimensions of SCM. This area examines both reverse logistics issues of product returns (Rudi & Pyke, 2000) and environmental impact issues (Herzlinger, 1994). Direct shipment from products ordered over the Web has created many new and important problems in economically handling customer returns. For products such as home furniture, management of product returns has proven to be the most vexing issue facing online retailers (Pyke, Johnson, & Desmond, 2001). Growing regulatory pressures in many countries are forcing managers to consider the most efficient and environmentally friendly way to deal with product recovery.

The term "product recovery" includes the handling of all used and discarded products, components, and materials. Product recovery management attempts to recover as much economic value as possible, while reducing the total amount of waste (Thierry, Salomon, Van Nunen, & Van Wassenhove, 1995). The authors also provide a framework and a set of definitions that can help managers think about the issues in an organized way (see Figure 40.4). These authors examine the differences among various product-recovery options

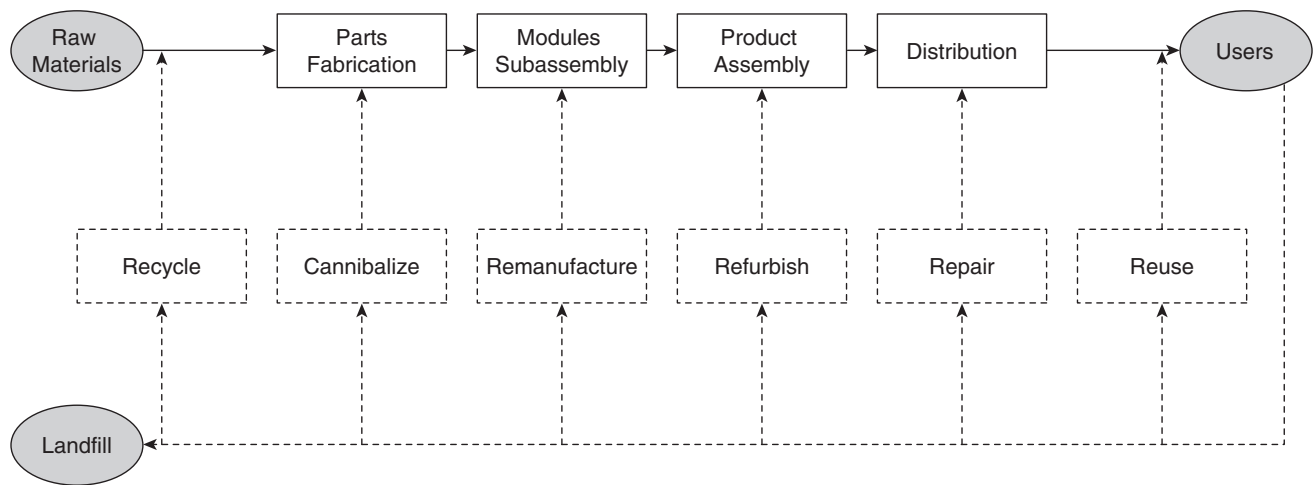


Figure 40.4 Product Recovery Options
SOURCE: Adapted from Thierry et al., 1995.

including repair, refurbishing, remanufacturing, cannibalization, and recycling. A review of quantitative models for reverse logistics can be found in Fleischmann et al., 1997.

The analysis of the recovery situation is considerably more complicated than that of consumables. Normally, in a recovery situation some items cannot be recovered, so the number of units demanded is not balanced completely by the return of reusable units. Thus, in addition to recovered units, a firm must also purchase some new units from time to time. Consequently, even at a single location, there are five decision variables: (1) how often to review the stock status, (2) when to recover returned units, (3) how many to recover at a time, (4) when to order new units, and (5) how many to order. When there are multiple locations, the firm must decide how many good units to deploy to a central warehouse and how many to deploy to each retailer or field-stocking location.

Location

Location pertains to the vast set of issues facing a firm in a facility location decision. Of the 12 categories, decisions in this area have perhaps the longest time horizon. Decisions at this level set the physical structure of the supply-chain and thus create constraints for more tactical decisions, such as transportation, logistics, and inventory planning. Engineering tools such as mathematical models of facility location and geographic information systems (GIS) are very useful in sorting through the many important quantitative and qualitative differences between location choices including labor costs, taxes and duties, transportation costs associated with certain locations, and government incentives (Hammond & Kelly, 1990). Exchange-rate issues fall in this category, as do economies and diseconomies of scale and scope, labor availability and skill, and quality-of-life issues for employees. Decision-support tools such as mathematical optimization using binary-integer programming models play a role here, as do simple spreadsheet models and quali-

tative analyses. There are many advanced texts specially dedicated to the modeling aspects of location (Drezner, 1996), and most books on logistics also cover the subject. Simchi-Levi et al. (1998) present a substantial treatment of GIS while Dornier, Ernst, Fender, and Kouvelis (1998) dedicate a chapter to issues of taxes, duties, exchange rates, and other global location issues. Ballou and Masters (1999) examine several software products that provide optimization tools for solving industrial-location problems.

Transportation and Logistics

Transportation and logistics includes all issues related to the physical flow of goods through the supply-chain including transportation, warehousing, and material handling. Decisions in this category assume that location decisions have been made; the firm has decided where to operate factories, distribution centers, and retail outlets. However, the two categories interact when managers determine which mode of transportation to use, and which factory, say, will supply a given distribution center. This category addresses many important choices related to transportation management including vehicle routing, dynamic fleet management with global positioning systems (GPS), and merge in transit. Also included are topics in warehousing and distribution such as cross-docking, vendor hubs, and materials-handling technologies for sorting, storing, and retrieving products.

Both deterministic models (such as linear programming and the traveling salesperson problem) and stochastic optimization models (stochastic routing and transportation models with queuing) are used here, as are spreadsheet models and qualitative analysis. Recent management literature has examined the changes within the logistics functions of many firms as the result of functional integration (Greis & Kasarda, 1997) and the role of logistics in gaining competitive advantage (Fuller, O'Connor, & Rawlinson, 1993). With growing numbers of firms involved with the

global management of materials, outsourcing of logistics services has become very popular. However, because of the importance of logistics outsourcing, we devote a separate category specifically to it.

Outsourcing and Logistics Alliances

Outsourcing and logistics alliances examines the supply-chain impact of outsourcing logistics services. With the rapid growth in third-party logistics providers, there is a large and expanding group of technologies and services that firms can procure from outside vendors. These include fascinating initiatives such as supplier hubs managed by third parties. Supplier hubs are warehouses operated by a logistics firm that consolidate the inventories of many component suppliers and then deliver those components to a manufacturer for assembly. In some cases, large firms have transferred their internal logistics personnel to another firm who then manages the logistics as an outsourced service. The rush to create such strategic relationships with logistics providers suggests that issues in this category will be important for some time, and yet several well-published failures have raised questions about the future of such relationships (see Bowersox, 1990; Lieb & Maltz, 1998.)

Product Design and New Product Introduction

The product design and new product introduction category deals with design issues for mass customization, delayed differentiation, modularity, and other issues for new product introduction. With the increasing supply-chain demands of product variety and customization, there is an increasing body of research available. One of the most exciting applications of “supply-chain thinking” is the increased use of postponed product differentiation (Feitzinger & H. L. Lee, 1997). Traditionally, products destined for world markets would be customized at the factory to suit local market tastes. While a customized product is desirable, managing worldwide inventory is often a nightmare. Using postponement, the product is redesigned so that it can be customized for local tastes in the distribution channel. The same generic product is produced at the factory and held throughout the world (Figure 40.5). Thus, if the French version is selling well, but the German version is not, German products can be quickly shipped to France and customized for the French market. Many times products can even be customized for individual customers or sales channels (Johnson & Anderson, 2000).

In a fascinating interaction with the reverse logistics and green issues category, some firms are beginning to consider design for the environment (DFE) and design for disassembly (DFD) in their product development processes. Unfortunately, AT&T discovered that designing products for reuse could result in more materials and complexity, thereby violating other environmental goals. For further

reading, on product take-back and recycling initiatives in numerous countries see Frankel (1996).

Initiatives in this category have clear implications for product cost (Robertson & Ulrich, 1998) and inventory savings. Inventory models are often used to identify some of the benefits of these initiatives. Also important are issues related to managing product variety (Fisher, Ramdas, & Ulrich, 1999) and managing new product introduction and product rollover (Billington, H. L. Lee, & Tang, 1998).

Information and Electronic Mediated Environments

The information and electronic mediated environments category addresses the impact of information technology to reduce inventory and the rapidly expanding area of electronic commerce. Often this subject takes a more systems orientation, examining the role of systems science and information within a supply-chain. Such a discussion naturally focuses attention on integrative enterprise resource planning (ERP) software such as SAP and Oracle, as well as supply-chain planning tools such as Manugistics, i2's Rhythm and SAP's APO. Supply-chain planning tools aid managers in planning shipments, purchasing materials, making production decisions, and moving inventory. The quality of these decisions is dependent on data—often stored in large ERP systems that track every transaction within the firm. Today, many of these supply-chain information tools are offered as services through easily accessible Web portals—eliminating the need to buy expensive software thus making it easier for both small firms and large firms to benefit.

Of course, the supply-chain changes wrought by electronic commerce are particularly interesting, including both the highly publicized retail channel changes (such as Amazon.com) and business-to-business innovations that are fundamentally changing the power structure in many supply-chains. In fact, the Web is enabling the disintegration of supply-chains by eliminating the cost advantages of large firms to stay together—owning component fabrication, assembly, and distribution. Long-standing reasons to remain vertically integrated, like high-transaction costs between partners, poor information availability, and the challenges of managing data between organizations are dissolving on the Web. For example, with the Web's ability to move vast quantities of information at low-cost, point-of-sale data from a retailer can be shipped more often, making daily forecasting more accurate and reducing inventory requirements throughout the supply-chain. Better information reduces the need of the retailers to own large distribution centers to maintain supply, streamlining the flow of material from manufacturers to retail stores.

Another information breakthrough is the ability to track product through the supply-chain using technologies such as radio frequency identification (RFID). Until recently, the physical operating layer in logistics operated in disconnected isolation from the information layer of SCM. The

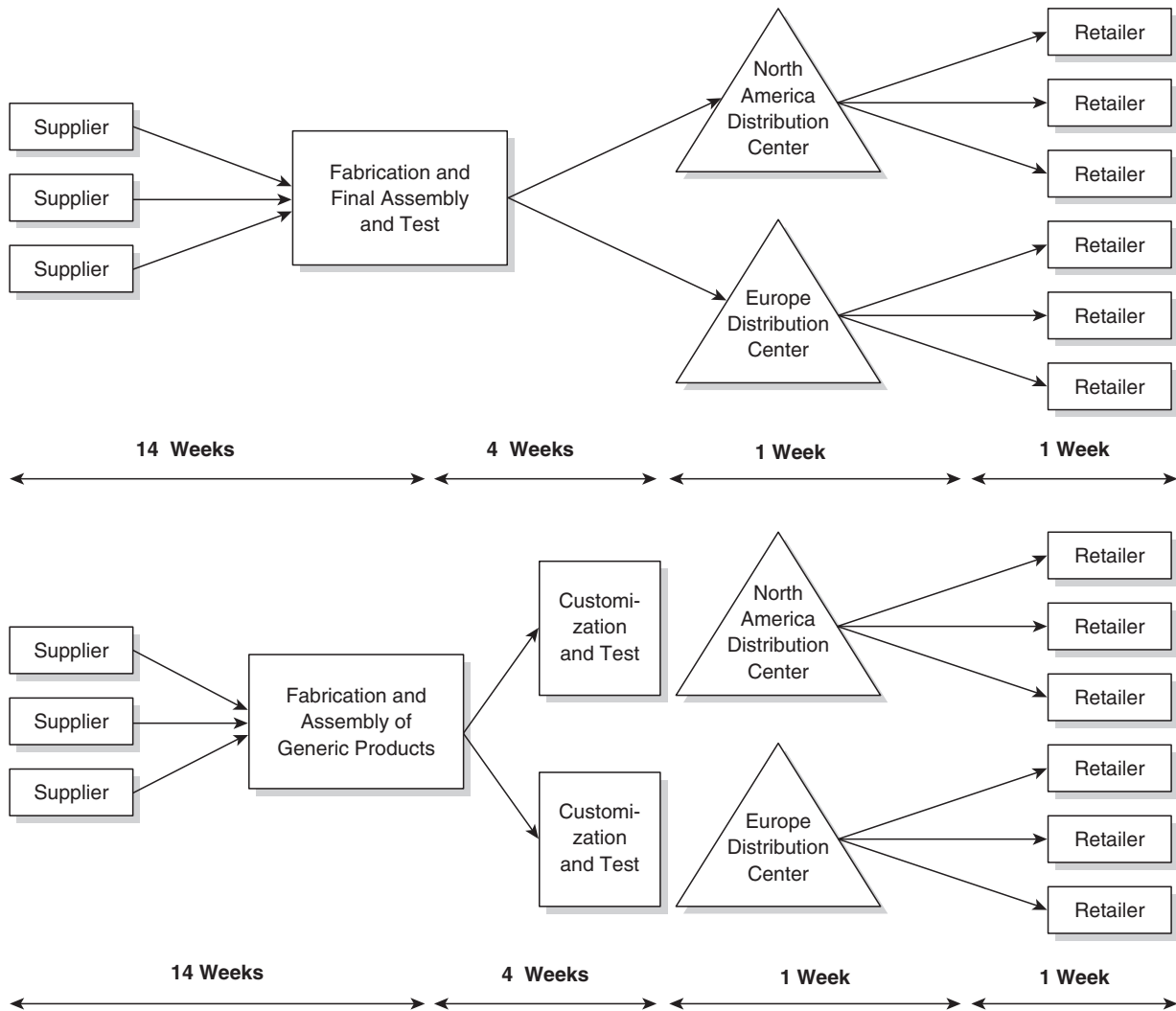


Figure 40.5 Using Postponement a Product Destined for Both U.S. and European Markets Is Redesigned So Local Content Can Be Added to a Common Platform Within Distribution

movement of products within a manufacturing or distribution facility was nearly invisible. Of course, the supply-chain information systems could show that they were somewhere in the facility, and possibly the designated storage location, but little beyond that—particularly if the items were in transit. The same was even more true of outside facilities. Goods that were shipped to a warehouse were “on the road, boat, or air,” but little more was known other than possibly when they were received at their destinations. That is rapidly changing. The race to connect the physical logistics layer and the information layer is accelerating. Many technologies are emerging to close the gap including wireless devices (e.g., RFID tags, 802.11 and blue tooth-enabled devices, pagers, cellular), global positioning systems, and legacy-tracking technologies, including EDI and bar coding, all linked to the Internet. When the connection is complete, the ubiquitous communication capability will make physical items visible throughout the supply-chain. This will enable many new decision-support tools to plan

and direct the movement of product, improving customer service and reducing inventory cost (Johnson in press).

Metrics and Incentives

Metrics and incentives refer to the measurement of both engineering and organizational processes and the related economic motivations. Because metrics are fundamental to business management, there are many reading materials outside of the supply-chain literature, including accounting texts. Several recent articles concentrate on the link between performance measurement and supply-chain improvement (Johnson & Davis, 1998).

Successfully managing supply-chains requires several metrics. For example, firms often track service measures such as item-order fill rates, order-to-delivery cycle time, and order defects (wrong item shipped). On the other hand, we also must measure the costs of providing the customer service—for example, the inventory holdings or

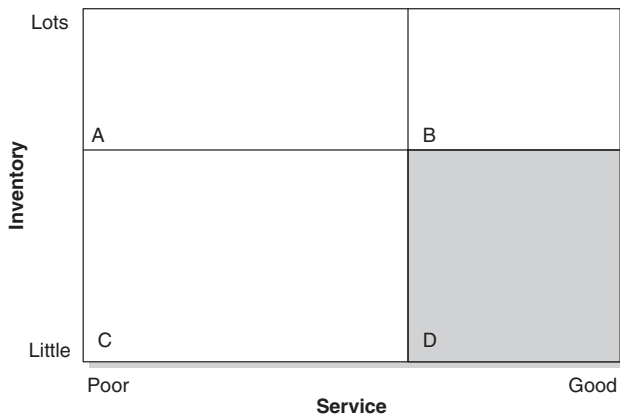


Figure 40.6 Assessing Inventory Productivity
SOURCE: Johnson and Davis, 1998.

transportation costs. In addition to these tactical measures, firms need a general way to access aggregate performance—something that quickly indicates the overall performance of the supply-chain. A qualitative way to represent performance appears in Figure 40.6. By combining two metrics—one for service and one for inventory—we satisfy two constituencies.

- Customers—Service measures (e.g., reliable delivery to a customer's desired delivery date) represent the customer's view. Better service, we assume, means happier customers.
- Financial analysts—Quantifying the inventory investment, from raw materials to finished goods, serves the needs of the financial analysts. All else being equal, firms would rather hold less inventory.

With this view of service and inventory investment, we have an indication of whether we are making effective use of assets. If we are performing in quadrant A, we suffer from both too much inventory and poor customer service. Everything is going wrong—despite substantial investment in inventory, we are losing sales because of inadequate service. This problem could result from holding too much stock of unpopular products or components while stocking out of those in great demand. Another explanation might be that the order processing systems cannot turn stock around quickly enough to meet customer demand—or other operational difficulties.

In quadrant B, we see that it should be easy to provide good service by holding lots of inventory. Likewise, if you hold too little inventory (quadrant C), product availability will drop and customer service will suffer. However, this simple matrix does not capture all aspects of the delivery performance problem. While the poor service indicated by quadrant C might be explained by insufficient stocks, other factors might contribute. More specific measures of performance might help to reveal the underlying cause of the imbalance between inventory and service.

Quadrant D is where most firms hope to operate. Here we are able to achieve high levels of customer service with

relatively low inventory investment—so inventory assets are being put to highly productive use. Of course, many operational factors could contribute to this success including fast cycle times, good customer information, or uniformly accurate forecasts.

Sourcing and Supplier Management

The sourcing and supplier management category addresses the issue in procuring components of a product and the management of the suppliers who provide it. Decisions to make a component or buy it from a supplier (Venkatesan, 1992) fall into this category. These decisions should involve top managers and strategic thinkers, because they can literally define the future of the firm. Witness the decision of IBM to outsource its PC-operating software to Microsoft and its central processing unit to Intel! Those two firms ended up with most of the power and profits generated by the PC industry.

Global sourcing also falls in the sourcing and supplier management area. While the location category addresses the location of a firm's own facilities, this category pertains to the location of the firm's suppliers. Once a decision is made to outsource a given component, and a supplier is chosen, the firm must carefully manage its relationship with the supplier (McMillan, 1990). We have observed two competing trends in recent years. On one hand, some firms are posting part specifications on the Internet so that dozens of suppliers can bid on jobs. GE, for instance, has developed a trading process network that allows many more suppliers to bid than was possible before. Many industries have developed similar capabilities housed in industry exchanges (e.g., Exostar for aerospace and defense or e2open for high tech); and independent firms such as Ariba and PerfectCommerce provide tools and services for e-sourcing. On the other hand, some firms are reducing the number of suppliers, in some cases to a sole source (Helper & Sako, 1995). Determining the number of suppliers and the best way to structure supplier relationships is becoming an important topic in supply-chains (Dyer, 1996; Pyke, 1998).

Global Issues

Finally, the phrase global issues refers to the issues beyond local country-specific operating environments and encompasses issues related to cross-border distribution and sourcing. For example, currency exchange rates, duties and taxes, freight forwarding, customs issues, government regulation, and country comparisons are all included. Of course, the location category, when applied in a global context, also addresses some of these issues. As we mentioned earlier, there are several texts devoted to global management and many recent materials also examine challenges in specific regions of the world such as Asia (H. L. Lee & G. Y. Lee, 2007) or Europe (Sharman, 1997).

Many companies today are wondering what to do about China. Some firms' sales are booming in Asia, while others

are achieving radically lower cost by sourcing from China and other low-cost countries (LCCs). Competitors may be shifting operations to LCCs, highlighting the risk of not making a move. In many cases, customers are opening assembly operations in China and requiring their suppliers to be nearby. The question of how a firm should approach these issues has been addressed in a number of articles and books. For instance, Pyke (2007) presents a strategic framework for global sourcing that encompasses corporate and functional strategies, as well as tactical dimensions, such as total landed cost. He also introduces the issue of risk management due to the potentially catastrophic risk associated with suppliers located on the other side of the world. This latter issue is extremely important and is gaining significant traction with global companies. Some firms have risk-management departments whose job is to understand the many “events” that could impact their business and to prepare for them. Others may be just beginning this journey, but they are cognizant that it needs to be taken.

Too often, firms take a purely tactical approach to LCC sourcing. They focus entirely on unit cost and justify the decision on this factor alone. In our experience, this is the most common LCC sourcing pitfall, although implementation problems are common as well. In particular, due to inadequate preparation and analysis, managers are unhappily surprised by late deliveries, poor quality, insufficient capacity, culture or negotiation conflicts, and so on. Pyke (2007) presents a four-stage decision process described in this chapter that captures a best practices approach (Figure 40.7).

First, the best firms approach the LCC decision in the context of a sweeping corporate strategy review. Is the sourcing decision consistent with the mission, values, and principles of the firm? Does the plan respond adequately to competition, global trends, and specific corporate performance targets? While it may not be necessary to undertake a full corporate strategy review for each LCC decision, managers should be very clear that it is consistent with existing strategy.

Second, these firms conduct a functional strategy review, focusing on operations and marketing, if appropriate. An analysis of the four operations objectives—cost, quality, delivery, and flexibility—helps managers focus on important operational considerations other than cost. As tempting as LCC unit costs may be, firms should carefully examine the effect of the decision on quality, delivery performance, and new product introduction. Furthermore, the best practice firms adjust their operating tactics for the new LCC source and ensure that they are consistent with each other and with the operations objectives.

Third, successful firms develop a comprehensive total landed cost model that includes easily quantifiable costs, such as customs, duties, inventory, and inbound and outbound logistics, as well as other soft costs, such as relationship management and management stress. If a cost is too difficult to quantify, it is still prudent to include it in the list, even without a specific number attached. It can thus serve as a caution sign for decision makers.

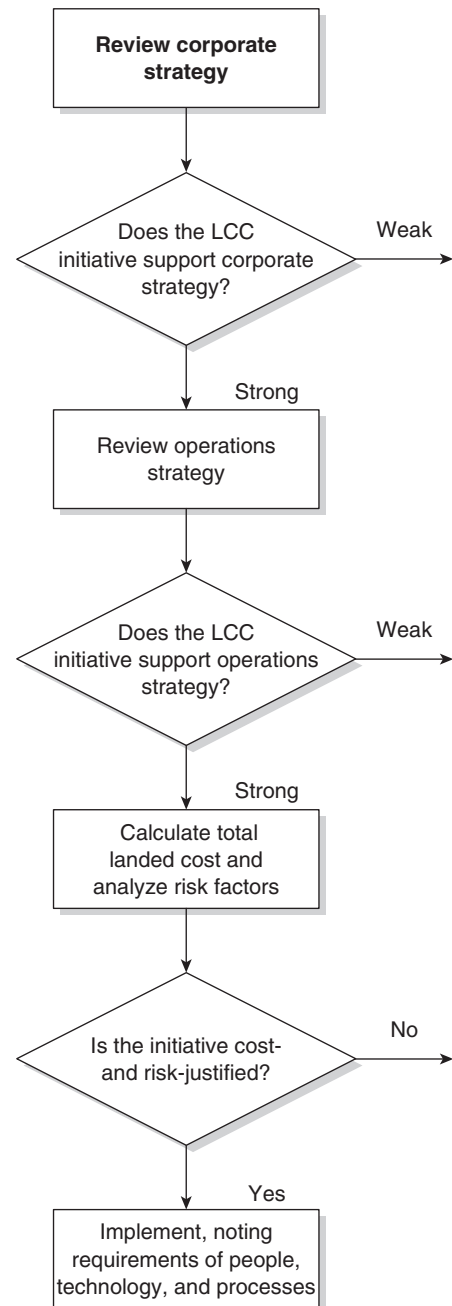


Figure 40.7 Framework for the LCC Decision
SOURCE: Pyke, 2007.

Finally, these firms also examine the risk factors that arise with an LCC decision. For ones they can quantify, such as increased lead-time variability, they adjust the relevant cost accordingly. For real, but difficult to quantify, risks, they employ tools including explicit backup plans and alternate sources of supply to mitigate risk.

The LCC sourcing decision is often a difficult and sometimes emotionally charged experience. The four-stage decision process described in Pyke (2007) will not eliminate the anxiety that workers and managers may feel, but it should reduce it. More importantly, it will ensure that the decision is grounded in careful quantitative and qualitative analysis.

CONCLUSION

SCM is indeed a large and growing field for both engineers and managers. Nearly all major management-consulting firms have developed large practices in the supply-chain field, and the number of books and academic research papers in the field is growing rapidly. In fact, each of the 12 areas covered in our treatment of supply-chains are important in themselves. While these areas may appear to be somewhat disparate, they are all linked by the integrated nature of the problems at hand. Large firms today operate in global environments, deal with multiple suppliers and customers, are required to manage inventories in new and innovative ways, and are faced with possible channel restructuring. Finally, the Internet continues to change many fundamental assumptions about business, pushing managers to continue to evolve their supply-chain practices or find themselves driven out of the market.

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MASS CUSTOMIZATION

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The demanding task for many companies today is to look at customers as individuals, to develop products and services proactively to individual customers' preferences, and then to produce and distribute these offerings. In the last decade, mass customization has emerged as an approach to reach exactly this objective. This chapter discusses the background of mass customization and the elements of this strategy, and it comments on its implementation in practice. In particular, it describes the four major building blocks of a mass customization system: (a) mass customization provides custom products or services meeting the needs of each individual customer; (b) this demands a cocreation process, which integrates the customer into the value chain of the provider; (c) mass customized products and services should be affordable for the same customers who previously purchased a standard good, which demands adequate prices and, subsequently, cost levels; and (d) to achieve such a situation of low costs and differentiation at the same time, mass customization relies on stable solution spaces, which set the constraints and fulfillment options of a mass customization system.

"It is the customer who determines what a business is" (Drucker, 1954). In the very sense of Drucker's famous statement, the ability to manage the value chain from the customers' point of view determines the competitiveness of many companies. In many industries, firms today are faced by an uninterrupted trend toward heterogeneity of demand. Explanations may be found in the growing number of single households, an orientation toward design, and a new awareness of quality and functionality that demands durable and

reliable products corresponding exactly to the specific needs of the purchaser (Prahalad & Ramaswamy, 2004; Zuboff & Maxmin, 2003). In particular, consumers with great purchasing power are increasingly attempting to express their personality by means of an individual product choice. Thus, manufacturers are forced to create product programs with an increasing wealth of variants, right down to the production of units of one. As a final consequence, many companies have to process their customers' demand individually.

To address this challenge, new technologies today provide several opportunities not available before. The advent of computing and communication technology enables pervasive connectivity and direct interaction possibilities among individual customers and between customers and suppliers. This connectivity offers an enormous amount of additional flexibility. Beyond "listening into the customer domain" (Dahan & Hauser, 2002) to address specific needs better and with shorter response time, manufacturers are enabled to look at customers as individuals and to proactively develop products to cater to them at the price they are willing to pay and the schedules that they are willing to accept. But despite all technological advances, this is by no means a straightforward task. Particularly in today's highly competitive business environment, activities to serve customers have to be performed efficiently and effectively at the same time. Mass customization has emerged as the leading idea in the last decade to reach exactly this objective. The idea is to provide custom products and services with mass production efficiency. Companies offering mass customization are becoming customer-centric enterprises

(Tseng & Piller, 2003), organizing all of their value-creation activities around interactions with individual customers.

When the subject of mass customization is raised, the successful model of computer supplier Dell is often named as one of the most impressive examples. The growth and success of Dell is based on the firm's ability to produce custom computers on demand, meeting exactly the needs of each individual customer and producing these items without any inventory risk of finished goods only after an order has been placed (and paid). But many other companies have also sustained lasting relationships with their customers through mass customization. Consider the following less known but notable examples:

- 121Time offers Swiss-made custom watches in high quality and with almost infinite customization options. The company operates one of the best online configuration toolkits available today and enables its customers to become real codesigners. In addition, it also benefits from a strong modular pricing approach. Different components of a watch are priced differently, and by creating a product that matches exactly each customer's personal willingness to pay, the economist's dream of skinning the individual consumer rent comes true (121Time, 2006).
- Selve, a London- and Munich-based manufacturer of women's custom shoes, is a fine example of a company that interacts well with its customers both in the traditional store and online. Selve enables its customers to create their own shoes by choosing from a variety of materials and designs, on top of a true custom fit of the shoes based on a 3-D scan of the women's feet. Trained consultants provide advice in the company's stores, and the online shop offers reorders. Shoes are all made to order in Italy, delivered in about three weeks, and cost between 150 and 250 Euro (US\$180–285; Selve, 2007).
- Sears has become to one of the leading players in the customization and personalization business in the United States. Its affiliate company Land's End was one of the first companies offering mass customization of garments online and in large quantities. Today, up to 60% of all products in some categories are truly made to order. But in its appliances business under the Sears and Kenmore brands, the company is a forerunner of offering online toolkits where consumers can design their own kitchens (and also other rooms of their homes) and equip them with custom furniture and appliances (Sears, 2007).

This chapter will explore the common elements and characteristics of successful mass customization strategies. It is organized as follows. In the next section, we review the development of the customer perspective in the modern firm toward its recent form of customer centricity. We then define the term *mass customization* in larger detail. Afterward, four basic principles of this strategy are discussed. The chapter closes with some remarks on the implementation of mass customization in industrial practice.

THE DEVELOPMENT OF CUSTOMER ORIENTATION AND CUSTOMER CENTRICITY

The idea of a customer centric enterprise is to focus all company operations on serving customers and deliver unique value by considering customers as individuals (Sheth, Sisodia, & Sharma, 2000; Tseng & Piller, 2003). Contrary to other forms of customer orientation, value creation takes place in the form of a collaboration or cocreation process between the company and its customers. As we will discuss, this cocreation is a defining element of a mass customization strategy. To offer a better understanding of the differences of such a customer centric enterprise, we will briefly review in this section the development of the modern firm from its origins in mass production to its recent form of customer orientation and customer centricity.

Mass customization today is often seen as a strategy substituting mass production (Pine, 1993). But before mass production was brought about by the industrial revolution, products were customized with *craftsmanship*. Every customer was a segment of one, and marketing was individualized and personal but performed implicitly and as part of the interaction process. Craftsmanship often presented high-quality products that were available only to selected groups of individuals (with appropriate purchasing power). The advent of *mass production* standardized the products and operations to leverage economy of scales and division of labor. This reduced the cost of production drastically. Consequently, a mass population could now afford the goods and services that were previously available only to pockets of society. A new generation of mass consumers was created to enjoy the products that were designed to meet the demands of a segment of population large enough to justify the fixed cost of production including setup cost and capital outlays. The "mass consumption society" (Sheth, Sisodia, & Sharma, 2000, p. 55) aroused as a seller's market, leading firms to adopt organizational forms centered on products. Groups of related products were seen during this period as the primary basis for structuring the organization (Homburg, Workman, & Jensen, 2000).

The resulting increase in product variety and in competition at the end of the 1950s led firms to start paying more attention to markets than to products. *Market orientation* as an organizational pattern of firms came up, following Drucker's (1954) argument that creating a satisfied customer is the only valid definition of business purpose. Market orientation places as its first objective to uncover and satisfy customer needs at a profit. Kotler (1967/1991) popularized the market-oriented perspective, and it was soon widely adopted. Market orientation implies that one sees the total market not as a homogenous mass market but as market segments of consumers. *Segmentation* started with the notion of sociodemographic division with variables such as age, sex, and income. This resulted in a limited number of focused product variants (Smith, 1956). Later,

segmentation became more refined. More subtly defined niches based on lifestyles and previous buying behavior resulted in an increasing number of product variants to care for individual, specific needs. Market segmentation demands information on consumers' needs (Narver & Slater, 1990). Today's instruments of market research were created as tools to satisfy exactly this set of demands by applying better understanding with information about customers.

With a continuous refinement of segmentation, market segmentation was replaced by the notion of *customer orientation*. Its principal features are (a) a set of beliefs that puts the customer's interest first; (b) the ability of the organization to generate, disseminate, and use superior information about customers and competitors; and (c) the coordinated application of interfunctional resources to the creation of superior customer value (for a review of the literature, see Day, 1994). Especially the strong emphasis on providing "customer value" in *all* functions of the organization can be regarded as the differentiation of customer orientation to the previous stage of market orientation. The customer came closer into the focus of the firm. During this time, the notion of the marketing function as the central entity to deal with and think about a firm's customers developed. *Relationship management* reinforced this perspective. It "emphasizes understanding and satisfying the needs, wants, and resources of *individual* consumers and customers rather than those of mass markets and mass segments" (Sheth, Sisodia, & Sharma, 2000). Instead of segments of customers, individual customers were seen as the target of the marketing mix, resulting in the term "one-to-one marketing" (McKenna, 1991). The members of one market segment are now no longer regarded as being heterogeneous in relation to their profit contribution for the firm, but each customer is assessed individually. Based on an individual output-to-input ratio of the marketing function for individual customers ("share of wallet"), customers are addressed either by a standardized offering or, if it pays off, by a customized offering (Parasuraman & Grewal, 2000). As a result, product-based strategies are being replaced with a competitive strategy approach based on growing the long-term *customer equity* of the firm.

The *customer-centric enterprise* combines the organization perspective of customer orientation with the individual perspective of relationship management (Piller, Reichwald, & Tseng, 2006; Tseng & Piller, 2003). It also extends the responsibility of dealing with the customer from the marketing function to the entire organization. Customer centricity means that the organization as a whole is committed to meeting the needs of all relevant customers. At the strategic level, this translates to the orientation and mind-set of a firm to share interdependencies and values with customers over the long term. At the tactical level, companies have to align their processes with the customers' convenience with the utmost importance, instead of focusing on the convenience of operations. Of course, sufficient infrastructural systems and leadership structures have to be implemented to reach this state. These changes include a customer-centric *orga-*

nizational structure. Traditionally separated functions like sales, marketing (communications), and customer service should become integrated into one customer-centered activity (Sheth, Sisodia, & Sharma, 2000). Further, customer centricity is turning the marketing perspective from the demand to the *supply side*. Marketing management has traditionally been viewed as demand management. The focus has been on the product or the market, and marketing had to stabilize demand for an offering through promotional activities such as incentives or pricing policies. The customer-centric enterprise is turning its focus to the individual customer as the starting point for all activities. Instead of creating and stabilizing demand—that is, trying to influence people in terms of what to buy, when to buy, and how much to buy—firms should try to adjust their capabilities including product designs, production, and supply-chains to respond to customer demand. Mass customization can be seen as a strategy for companies to achieve these goals of customer centricity, both with regard to marketing and sales as well as with regard to operations and supply-chain management.

MASS CUSTOMIZATION: AN OPERATIONAL STRATEGY TO ENABLE CUSTOMER-CENTRIC ENTERPRISES

Davis, who coined the phrase in 1987, refers to mass customization when "the same large number of customers can be reached as in mass markets of the industrial economy, and simultaneously they can be treated individually as in the customized markets of preindustrial economies" (p. 169). Pine (1993) popularized this concept and defined mass customization as "providing tremendous variety and individual customization, at prices comparable to standard goods and services" to enable the production of products and service "with enough variety and customization that nearly everyone finds exactly what they want" (p. 9). A pragmatic but precise definition was introduced by Tseng and Jiao (2001). Mass customization corresponds to "the technologies and systems to deliver goods and services that meet *individual* customers' needs with *near* mass production efficiency" (Tseng & Jiao, 2001, p. 685). This definition implies that the goal is to detect customers' needs first and then to fulfill these needs with efficiency that almost equals that of mass production. Often, this definition is supplemented by the requirement that the individualized goods do not carry the price premiums connected traditionally with (craft) customization (Davis, 1987; Westbrook & Williamson, 1993). However, consumers frequently are found to be willing to pay a price premium for customization that reflects the increment of utility customers gain from a product that better fits their needs than the best standard product attainable (Chamberlin, 1962).

Concluding, we can define mass customization as follows: Mass customization refers to a *customer codesign process* of products and services that meet the *needs of each individual customer* with regard to *certain product features*.

All operations are performed within a *fixed solution space*, characterized by stable but still flexible and responsive processes. As a result, the *costs associated with customization* allow for a price level that does *not imply a switch in an upper market segment*.

In the next section, we will discuss the basic elements of this definition in further detail. Before, an important differentiation of the terms mass customization and personalization seems required, as sometimes both terms are used synonymously and as sometimes both are used explicitly differently. While customization relates to changing, assembling, or modifying *product* or *service* components according to customers' needs and desires, personalization involves intense *communication* and *interaction* between two parties, namely customer and supplier. Personalization in general is about selecting or filtering information objects for an individual by using information about the individual (the customer profile) and then negotiating the selection with the individual. Thus, personalization compares strongly to recommendation: from a large set of possibilities, customer specific recommendations are selected (Imhoff, Loftis, & Geiger, 2001; Resnick & Varian, 1997). From a technical point of view, automatic personalization or recommendation means matching meta-information of products or information objects to meta-information of customers (stored in the customer profile). Personalization is increasingly considered an important ingredient of modern Internet applications. In most cases, personalization techniques are used for tailoring information services to personal user needs. In marketing, personalization supports one-to-one marketing (Peppers & Rogers, 1997), which should increase the customer share over a lifetime.

A good example of both customization and personalization is provided by Lands' End, a catalog retailer. The company is a pioneer of exploring personalization techniques on the Internet, and it has been using a virtual model and recommendation service on its Web site since 1999. The system recommends a customized bundle of standard mass products matching each other and the customers' style profile. This service provides customers with a set of coherent outfits rather than with isolated articles of clothing. But each product is still a standard product. In 2003, Land's End also introduced mass customization. Over the Internet, customers can order made-to-measure trousers and shirts. All products are made to order in a specially assigned factory. The company offers a substantial number of design options and varieties that customers choose using a dedicated Internet toolkit. Obviously, mass customization and personalization can be combined and benefit each other. A customer may use the recommendation system based on his or her virtual model to explore the existing assortment of products and find those fitting to his or her needs. If such a product is not available in a category he or she likes, he or she may be transferred to the customization offering where he or she can configure this product, though having to pay a premium and to wait a bit longer until this item is produced just for him or her.

ELEMENTS OF MASS CUSTOMIZATION STRATEGIES

According to the definition of mass customization in the previous section, mass customization consists of four basic elements: (a) mass customization provides custom products or services meeting the needs of each individual customer; (b) this demands a cocreation process, which integrates the customer into the value chain of the provider; (c) to differentiate mass customization from conventional craftsmanship, mass customized products and services should be affordable for the same customers which previously purchased a standard good, which demands adequate prices and, subsequently, cost levels; and (d) to achieve such a situation of low costs and differentiation at the same time, mass customization relies on stable solution spaces, which set the constraints and fulfillment options of a mass customization system. In this section, we will discuss these four elements of mass customization in larger detail.

Custom Products Meeting the Needs of Each Individual Customer

From a strategic management perspective, mass customization is a differentiation strategy. Referring to Chamberlin's (1962) theory of monopolistic competition, customers gain from customization the increment of utility of a good that better fits to their needs than the best standard product attainable. The larger the heterogeneity of all customers' preferences, the larger is this gain in utility. The value of a custom good can be measured as the increment in utility customers get from a product that fits better to their needs than the second-best solution available (Kaplan, Schoder, & Haenlein, 2007). Note that mass customization does not demand lot sizes of one. Custom products can be produced in larger quantities for an individual customer. This frequently happens in industrial market, when, for example, a supplier provides a custom component that is integrated in a product of the vendor.

From the perspective of product development, value by customization can be achieved by three design features of a product, which all can become the starting point of customization: the fit (measurements), functionality, and form (style and aesthetic design) of an offering.

- *Fit and comfort (measurements)*. The traditional starting point for customization in consumer good markets is to fit a product according to personal measurements of the client, for example, body measurements or the dimensions of a room or other physical object. Market research identifies better fit as the strongest arguments in favor for mass customization (EuroShoe, 2003). Often, however, it is also the most difficult dimension to achieve, demanding complex systems to gather the customers' dimensions exactly and to transfer them into a product that has to be based on a parametric design (to fulfill the requirement of a stable solution space, see the following). This often commands

for a total redesign of the product and the costly development of flexible product architectures with enough slack to accommodate all possible fitting demands of the customer base. In sales, expensive 3-D scanners or other devices are needed, which in turn demand highly qualified sales clerks to operate those (Berger, Moeslein, Piller, & Reichwald, 2005).

- *Functionality.* Functionality addresses issues like selecting speed, precision, power, cushioning, output devices, interfaces, connectivity, upgradeability, or similar technical attributes of an offering according to the requirements of the client. This is the traditional starting point of customization in industrial markets where machines, for example, are being adjusted to their place in an existing manufacturing system or components are being produced according to the exact specifications of their buyers. Functionality demands similar efforts to elicit customer information about the desired individual functionality as the fit dimension. In manufacturing, however, the growing software content of many products today enables the customizability of functional components more easily.
- *Form (style and aesthetic design).* Form (style and aesthetic design) relates to modifications aiming at sensual or optical senses, that is, selecting colors, styles, applications, cuts, or flavors. Many mass customization offerings in business-to-consumer e-commerce are based on such a possibility to codesign the outer appearance of a product. This kind of customization is often rather easy to implement in manufacturing, demanding a late degree of postponement (Duray, 2002), especially if digital printing technology can be applied. The desire for a particular outer appearance is often inspired by fashions, peers, role models, and so forth, and the individuals' desire is to cope and adapt to these trends. In the psychological marketing literature, the construct of *consumers' need for uniqueness* is discussed (Tepper, Bearter, & Hunter, 2001). Consumers acquire and display material possessions for feeling differentiated from other people or by actions that consumers perform explicitly to be recognized by others (counterconformity motivation). Some consumers express their desire for uniqueness by selecting material objects (fashion) that are ahead of the average trend and by purchasing handcrafted items or vintage goods from nontraditional outlets. Mass customization can be a further means to express their uniqueness, when consumers can design products to own personal specification in order to look different than the rest.

To illustrate these options, consider the example of a shoe. Here, fit is mostly defined by its last but also by the design of the upper, insole, outsole, and so forth. Style is the option to influence the aesthetic design of the product, that is, colors of the leathers or patterns. A shoe's functionality can be defined by its cushioning, form of heels, or the structure of cleats. In the case of cereal, these options could be translated into package size (fit), taste (e.g., no chocolate and raisins or many strawberries), and nutrition (e.g., vitamins or special fibers). To match the level of customization offered

by a manufacturer and the needs of the targeted market segment is a major success factor. When building a mass customization system, defining the options where customization should be placed and to which extent is a major task that demands thorough market research and evaluation.

Customer Codesign

Customization demands that the recipients of the customized goods transfer their needs and desires into a concrete product specification. Mass customization thus demands a process of customer codesign. Codesign activities are performed in an act of company-to-customer interaction and cooperation (Franke & Piller, 2003, 2004; Khalid & Helander, 2003; Tseng, Kjellberg, & Lu, 2003; von Hippel, 1998). Customers are integrated into value creation by defining, configuring, matching, or modifying an individual solution. Already in 1991, Udvardi and Kumar envisioned that customers and manufacturers would become "coconstructors" (i.e., codesigners) of products intended for each customer's individual use. In their view, coconstruction would arise when customers had only a nebulous sense of what they wanted. Without the customers' deep involvement, the manufacturer would be unable to fill each individualized product demand adequately. Computer technology, particularly the capacity to simulate potential product designs before a purchase, would enable the collaborative effort (Haug & Hvam, 2007; Ulrich, Anderson-Connell, & Wu, 2003). This understanding represents one of the four forms of mass customization as identified by Gilmore and Pine (1997), collaborative customization. In this strategy, the manufacturer and customer work together to identify and satisfy the customer's needs through a system that allowed easy articulation of exact wants. Anderson-Connell, Ulrich, and Brannon (2002) used the term *codesign* to describe a collaborative relationship between consumers and manufacturers wherein, through a process of interaction between a design manager and a consumer, a product is designed according to consumer specification and based on the existing manufacturing components.

In mass customization, codesign activities are in general performed with the help of dedicated systems. These systems are known as configurators, choice boards, design systems, toolkits, or codesign platforms (Salvador & Forza, 2007). They are responsible for guiding the user through the configuration process. Whenever the term *configurator* or *configuration system* is quoted in literature, for the most part, it is used in a technical sense addressing a software tool. The success of such an interaction system, however, is by no means defined only by its technological capabilities but also by its integration in the sales environment, its ability to allow for learning by doing, its ability to provide experience and process satisfaction, and its integration into the brand concept. Tools for user integration in a mass customization system contain much more than arithmetic algorithms to combine modular components. Taking up an expression from von Hippel (2001), the more generic term

toolkits for customer codesign may better cover the diverse activities taking place (Franke & Piller, 2003). In a toolkit, different variants are represented, visualized, assessed, and priced with an accompanying learning-by-doing process for the user.

Codesign differentiates mass customization from other strategies like agile manufacturing or postponement strategies in the distribution chain. It also provides new opportunities for marketing and customer relationship management. Recent research by Franke and Piller (2004) and Schreier (2006) has shown that up to 50% of the additional willingness to pay for customized (consumer) products can be explained by the positive perception of the codesign process itself. Products that a customer codesigns may also provide symbolic (intrinsic and social) benefits for the customer, resulting from the *process* of codesign and not its outcome (e.g., Piller, 2005; Reichwald, Müller, & Piller, 2005; Schreier, 2006). Schreier quoted, for example, a pride-of-authorship effect. Customers may cocreate something on their own, which may add value due to the sheer enthusiasm about the result. This effect relates to the need for uniqueness as discussed before, but it is based here on a unique task and not its outcome. In addition to enjoyment, task accomplishment has a sense of creativity. Participation in a codesign process may be considered a highly creative problem-solving process by individuals engaged in this task, becoming a motivator to purchase a mass customization product.

An important precondition to customer satisfaction from codesign is that the process itself is felicitous and successful. The customer has to be capable of performing the task. This competency issue involves *flow*, a construct often used by researchers to explain how customer participation in a process increases satisfaction (Csikszentmihalyi, 1990). Flow is the process of optimal experience achieved when motivated users perceive a balance between their skills and the challenge during an interaction process (Novak, Hoffman, & Young, 2000). Interacting with a codesign toolkit may lead exactly to this state. However, the peculiarities of user design with a codesign toolkit limit a direct transfer of the findings in other fields to codesign. Further empirical insights in this matter are therefore a prerequisite (Franke & Piller, 2003). Marketing researchers are just realizing this research opportunity (e.g., Dellaert & Stremersch, 2005; Randall, Terwiesch, & Ulrich, 2005; Simonson, 2005).

Customer codesign in a mass customization context establishes an interaction between the manufacturer and customer, which offers possibilities for building a lasting relationship. Once the customer has successfully purchased an individual item, the knowledge acquired by the manufacturer represents a considerable barrier against switching suppliers. Reorders are much easier and more possible. Codesign, thus, enables a company to increase the loyalty of its customers. Consider the case of Adidas, a large manufacturer of sports goods (Berger et al., 2005). In 2001, the company introduced its mass customization program “mi adidas,” offering custom sports boots in regard to fit,

functionality, and aesthetic design. The process starts with a customer who wants to buy personalized running shoes for around \$150. The more the customer tells the vendor about his or her likes and dislikes during the integration process, the better chance there is of a product being created that meets his or her exact needs on the first try. After delivery of the customized product, feedback from the customer enhances Adidas’ knowledge of the customer. The manufacturer can draw on detailed information about the customer for the next sale, ensuring that the service provided becomes quicker, simpler, and more focused. The state of information is increased and fine-tuned with each additional sale. This data is also used to propose subsequent purchases automatically once the life of the training shoes is over (for Adidas customers who train intensively, this can be every couple of months).

When Adidas enters a learning relationship with its customers, it increases the revenues from each customer because, and in addition to the actual product benefits, it simplifies the purchasing decision, so the customer keeps coming back. Why would a customer switch to a competitor—even one that can deliver a comparable customized product—if Adidas already has all of the information necessary to supply the product? A new supplier would need to repeat the initial process of gathering data from the customer. Moreover, the customer has now learned how his or her integration into the process successfully results in the creation of a product. By aggregating information from a segment of individual customers, Adidas also gains valuable market research knowledge. As a result, new products for the mass-market segment can be planned more efficiently and market research is more effective because of unfiltered access to data on market trends and customers’ needs. This is of special benefit to companies that unite large-scale, make-to-stock production with tailored services. Mass customization, thus, can become an enabling strategy for mass production.

Adequate Price and Cost Level

Mass customization sometimes is defined by the requirement that the individualized goods are provided at prices comparable to a mass produced item (Pine, 1993). However, mass customization practice shows that consumers are frequently willing to pay a price premium for customization that reflects the increment of utility they gain from a product that better fits to their needs than the best standard product attainable (see Franke & Piller, 2004; Levin, Schreiber, Lauriola, & Gaeth, 2002). Different to conventional craft customization, however, mass customization goods are targeting *the same market segment* that was previously purchasing the standard goods. Traditionally, craft customization is related to price premiums of such an extent that it targets a completely different market segment. This is not the case with mass customization.

From the manufacturer’s perspective, this price level demands for a cost level that allows such affordable premiums.

The primary challenge in pursuing mass customization from the perspective of operations strategy stems from two sources of additional cost flexibility (Su, Chang, & Ferguson, 2005): (a) increased complexity and (b) increased uncertainty in business operations, which by implication result in higher operational cost. A higher level of product customization requires greater product variety, which in turn entails greater number of parts, processes, suppliers, retailers, and distribution channels. A direct consequence of such proliferations is an increased complexity in managing all aspects of business from raw material procurement to production and eventually to distribution. Furthermore, increase in product variety has the effect of introducing greater uncertainty in demand realizations, increase in manufacturing cycle times, and increase in shipment lead times (Kumar & Piller, 2006; Yao, Han, Yang, & Rong, 2007). Increased system complexity and uncertainties (in demand and lead time) drive the operational cost upward due to more complex planning, greater hedging, increased resource usage, more complex production setups, diseconomies of scope, and higher distribution cost spread throughout the supply-chain. Furthermore, a sizeable increase in costs to support the customer codesign interface on a Web site or in a physical store is integral to a mass customization strategy.

These additional costs can be counterbalanced by a number of new profit or cost-saving potentials. First, customers often are willing to pay a premium for customization, at least to an extent. Second, a well-formulated, well-designed mass customization strategy could significantly offset the cost overruns through a number of strategic and tactical mechanisms. Two primary mechanisms of cost reduction in mass customization are delayed product differentiation (postponement) and the realization of economies of customer integration.

The latter mechanism has already been described in the previous section on customer codesign. Economies of customer integration result from information and relationships that a manufacturer gains when interacting with individual customers (Piller, Möslin, & Stotko, 2004). Resulting cost saving potentials are substantially based on the better access to knowledge about the needs and demands of the customer base (Kotha, 1995; Rangaswamy & Pal, 2003; Squire, Readman, Brown, & Bessant, 2004) such as (a) the reduced or eliminated need for forecasting product demand, (b) reduced or eliminated inventory levels of finished goods, (c) reduced product returns, (d) reduced obsolescence or antiquated fashion risks, and (e) the prevention of lost sales if customers cannot find the product in a store that fits to their requirements and, thus, allocate the purchasing budget to another item. The savings from these effects can be huge. Forrester Research estimated that the U.S. automotive industry could save up to \$3,500 per vehicle by moving from its recent build-to-stock model to a build-to-order system. Similarly, for the apparel industry, cost savings up to 30% are estimated when moving to a on-demand system. Estimates for the apparel industry indicate that almost \$300 billion are wasted annually due to erroneous forecasting,

heavy inventory, fashion risks, and lost profits as a result of necessary discounts (Sanders, 2005).

The former concept, delayed product differentiation, refers to partitioning the supply-chain into two stages: a standardized portion of the product is made during the first stage, while the differentiated portion of the product is made in the second stage based on customer preference expressed in an order. The success of delayed product differentiation is a direct manifestation of the fact that most companies offer a portfolio of products that consists of families of closely related products, which differ from each other in a limited number of differentiated features. An example of delayed product differentiation in the automotive industry would be to send a standard version of the car (stripped or partially equipped version) to dealers and then allow dealers to install, based on specific customer requests, CD/DVD players, rear fin, interior leather or fabric, cruise control systems, and so forth. Prior to the point of differentiation, product parts are reengineered so that as many parts or components of the products are common to each configuration as possible. Cost savings result from the risk-pooling effect and reduction in inventory stocking costs. Additionally, as common performance levels of functionalities are selected by a number of customers, economies of scale can be achieved at the modular level for each version of the module, generating cost savings not available in pure customization-oriented production systems.

Stable Solution Space

In the previous section, a number of approaches have already been presented that aim to reduce the additional cost of mass customization. Another important principle to achieve “mass production efficiency” in mass customization is to control for the extent in which additional cost occurs. The major means to reach this objective is to achieve stability in the solution space of a mass customization system. The term *solution space* represents the preexisting capability and degrees of freedom built into a given manufacturer’s production system (von Hippel, 2001). The space in which a mass customization offering is able to satisfy a customer’s need is finite. Correspondingly, a successful mass customization system is characterized by *stable* but still flexible, responsive processes that provide a dynamic flow of products (Badurdeen & Masel, 2007; Pine, 1995; Salvador, Rungtusanatham, & Forza, 2004). Value creation within a stable solution space is the major differentiation of mass customization versus conventional (craft) customization. A traditional (craft) customizer reinvents not only its products but also its processes for each individual customer. But a mass customizer uses stable processes to deliver high-variety goods (Blecker & Abdelkafi, 2007; Pine, Victor, & Boynton, 1993). This allows a mass customizer to achieve “near mass production efficiency” but also implies that the customization options are limited to *certain product features*. Customers perform codesign activities within a list of options and predefined components. This space determines

what universe of benefits an offer is intended to provide to customers and then within that universe what specific permutations of functionality can be provided (Pine, 1995). Mass customization does not mean to offer limitless choice but to offer choice that is restricted to options that are already represented in the fulfillment system. In the case of digital goods (or components), customization possibilities may be infinite.

In the case of physical goods, however, they are limited and may be represented by a modular product architecture. Modularity is an essential part of every mass customization strategy (Duray, 2002; Gilmore & Pine, 1997; Kumar, 2005; Mikkola, 2007; Tseng & Jiao, 2001). Each module serves one or more well-defined functions of the product and is available in several options that deliver a different performance level for the function(s) it is intended to serve. This principle shows that mass customization demands compromise: Not all notional customization options are being offered, but only those that are consistent with the capabilities of the processes, the given product architecture, and the given degree of variety.

The product family approach has been recognized as an effective means to accommodate an increasing product variety across diverse market niches while still being able to achieve economies of scale (Tseng & Jiao, 2001; Zhang & Tseng, 2007). In addition to leveraging the costs of delivering variety, product family design can reduce development risks by reusing proven elements in a firm's activities and offerings. The backdrop of a product family is a well-planned architecture—the conceptual structure and overall logical organization of generating a family of products—providing a generic umbrella to capture and utilize commonality. Within this architecture, each new product is instantiated and extends to anchor future designs to a common product line structure. The rationale of such a product family architecture lies not only in unburdening the knowledge base from keeping variant forms of the same solution but also in modeling the design process of a class of products that can widely variegate designs based on individual customization requirements within a coherent framework (Tseng & Jiao, 2001). Setting the modular product family structure of a mass customization system and its solution space becomes one of the foremost competitive capabilities of a mass customization company.

FUTURE DIRECTIONS

This chapter has argued that mass customization can be seen as a response to today's challenges of heterogeneous demands and the need of companies to become truly customer centric. When properly implemented, mass customization brings about across-the-board improvements in all dimensions of operations strategy: responsiveness, price, quality, and service (Ismail, Reid, Mooney, Poolton, & Arokiam, 2007). But there are also a number of critical observations. Mass customization is neither a “one size

fits all” approach nor the right strategy in all contexts. A recent survey by FedEx Corporation in the apparel industry found that more than 90% of the respondents agree that mass customization will play a significant role in the next 5 years. Yet, not all performance outcomes related to mass customization implementation are necessarily positive. Levi's Original Spin program (custom jeans) or Proctor & Gamble's Reflect brand (custom cosmetics) are prominent examples for mass customization of large and powerful enterprises that could not fulfill their promises and that have been terminated. Research on the contingency factors of a mass customization system is still underdeveloped. There still is little knowledge in the management domain about the dominant capabilities of a mass customization system (Cavusoglu & Raghunathan, 2007; Moser, 2007).

One major reason why mass customization operations fail or do not develop as expected that has been discussed can be found in the customer domain. While mass customization provides additional benefits for users, it also comes with additional cost and risk. In addition to the direct cost of mass customization in form of the price premium, customers may perceive psychological or cognitive (indirect) costs. Cognitive costs result from the perceived risk of being involved in cocreation, which can be understood as the expectations of customers to realize a loss. Some authors emphasize the downsides of the cocreation behavior for the customer (Dellaert & Stremersch, 2005; Franke & Piller, 2003; Randall, Terwiesch, & Ulrich, 2005; Zipkin, 2001). They argue that the active role of the user-designer may lead to mass confusion. Schwartz (2004) noted this aspect of human nature in his study “The Paradox of Choice” and concluded that freedom of too much choice could be a *form of tyranny* for the customer. Customer satisfaction may not only plateau after a certain customization level of the product, it may decrease because of the frustration a customer feels due to excessive choice or variety. Thus, setting the right degree of customization and carefully selecting the options for customization is crucial for mass customization success. To investigate the factors and design features of a good codesign toolkit that prevents this mass confusion is a major field for further research.

On the firm's perspective, a repeating pattern of failure can be seen in unsuccessfully managing the change process from a product-focused, mass production firm to a customer-centric organization (Moser, 2007). Business managers and their employees often get accustomed to a dominant logic shaped by the attitudes, behaviors, and assumptions that they have witnessed in their environments for a long time. The thinking of many managers still is conditioned by managerial routines, systems, and incentives created under the *mass production* framework. However, the genus of mass customization is a codesign process of cocreation of value in collaboration with the customer. Shifting the locus of value creation toward customers requires no less than a radical change in the management mind-set (Forza & Salvador, 2007). Firms, thus, must begin at the level of normative management with the challenge to change the old

and adversarial perceptions of the customers and to develop an attitude of listening to and aligning with customers. Introducing mass customization must always be preceded by a well-conceived, well-deliberated change in management process that will make the organization more customer centric. Research on change management for mass customization almost does not yet exist.

Another area that demands further attention is related with the exploitation of customer knowledge gained during the codesign process. As mentioned before, value creation for the firm in a mass customization is substantially based on better access to knowledge about the needs and demands of the customer base (economies of integration). By aggregating this knowledge, the company can generate better market research information and more accurate forecasting concerning customer needs. This is especially true when the firm's main business is still following the made-to-stock and inventory-based (mass) production system (Kotha, 1995). For the portion of business that is (still) manufactured on stock, the custom segment provides important market research information, which can be used to improve variant development and forecasting accuracy of products made to stock. Firms can also benefit from combining mass customization and mass production in one factory, using mass produced items to utilize overcapacities of the custom manufacture. To utilize this capability, however, the firm has to obtain adequate competences to design and redesign the routines that facilitate combining existing knowledge and the newly acquired and assimilated knowledge. Developing practices of combining mass production and mass customization operations successfully in one business model is still an open, but very promising, field in management and research.

But despite these challenges, mass customization has great potential to be a source of sustainable financial and strategic advantage. Today's market characteristics and competitive challenges favor mass customization in many industries and market situations. Students and practitioners of management alike should learn more about this strategy and investigate how a customized mass customization approach can suit their businesses better.

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IMPROVING SUPPLY-CHAIN INFORMATION VELOCITY, PRODUCT CUSTOMIZATION, AND COST THROUGH EXTENDED ENTERPRISE APPLICATIONS

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Globalization has resulted in increasing competitiveness in today's supply-chain. Such an environment called for greater integration to coordinate with national and international business partners. The term *extended enterprise* (ERP II) was a new concept introduced by the Gartner Group in 2000 to label the latest extensions to the enterprise resource planning (ERP) system (Classe, 2001), which includes integration and sharing of accurate information about orders and inventory across the supply-chain, enabled by the newly emerged Internet technologies. However, the ERP acronym has persisted as the most widely used term to describe this wide phenomenon (Sarpola, 2003).

This chapter explores the value of a new form of enterprise, namely, the extended enterprise to improve supply-chain information velocity, product customization, and cost. To become an extended enterprise, an enterprise with a traditional system will need to upgrade or modify the existing system, and/or to introduce extended enterprise applications (EEA) into the system. This leads to the investigation on the potential benefits of using EEA. The results of the

Loh, Koh, and Simpson (2006) study indicate that EEA and ERP vendors and users have benefited from the concepts of an extended enterprise, which include the following: (a) Manual operational tasks will be automatically managed by the EEA, and the system will even warn the enterprise if certain events did not occur or need to occur; (b) as supply-chains become more integrated and business processes are automated, the supply-chain will require less day-to-day management, and (c) the supply-chain will be driven to manage exceptions and the system will handle much of the "traditional operations." This will mean more time to focus on improving the way the supply-chain fits together, to develop strategic alliances, to reduce inventories, and to improve productivity.

The overall conclusion is that the use of EEA is expected to increase the supply-chain information velocity, increase product customization, and lower cost of doing business. However, some concerns have been identified, such as identity theft when handling the confidential information (Ghahremani, 2003) and supply-chain failures—that is, outdated data and unclear responsibility for controls over

the information flowing across to the supply-chain partners (Taylor, 2003; Ernst & Young, 2004). Nevertheless, Loh et al.'s (2006) findings suggest that the avenue of becoming an extended enterprise is worth pursuing, after considering the potential value obtained from using EEA.

BACKGROUND

In most enterprises, a critical dimension of competition is the speed of an enterprise in responding to customer demands. Therefore, having real-time information delivered between internal departments and external business partners is a vital advantage for management in undertaking any important decision making. Many researchers have looked into this aspect in manufacturing environments where fast response to product manufacture often relates to the term *concurrent engineering* (CE). CE has also been referred to as simultaneous engineering (SE; Zhang & Atling, 1992), life-cycle engineering, concurrent product and process design, design for production, design for manufacture and assembly (DFMA; Hartley & Mortimer, 1990), integrated and cooperative design, design fusion, producibility engineering, and system engineering. Whatever it is called, CE is not a physical process or a set of procedures; it is a board-level responsibility to integrate the concept into effective, cohesive business units.

CE has been defined by Winner, Pennell, Bertrand, and Slusarczuk (1988) as

A systematic approach to the integrated, concurrent design of the products and their related processes, including manufacture of support. This approach is intended to cause the developers, from the outset, to consider all elements of the product life cycle from concept through to disposal, including quality, cost, schedule, and user requirements. (as cited in Loh et al., 2006, p. 49)

Rolls-Royce defines SE/CE in terms of the objective rather than the process (De Meyer, 1990) as an approach to optimize the design of the product and the manufacturing process to achieve reduced lead times and improved quality and reduced cost by the integration of design and manufacturing activities and by maximizing parallelism in working practices. These definitions indicate that the lead time should be significantly reduced as a result of CE.

The idea behind CE is acknowledged as a concept that integrates all the departments within an enterprise. The competitiveness between supplier and customer partly relies on how effectively and efficiently the parties in the supply-chain handle the order and information. This can be assisted by the use of an integrated, enterprisewide information system such as an ERP system. Mabert et al. (2003) highlighted that ERP-type systems will provide precise information and better performance in manufacturing and logistics.

In today's dynamic economic climate and global marketplace, the pace of change is ever increasing, which demands that organizations develop integrated management systems that can cope with these changes. This means that the required changes in performance or organizational objectives are incorporated within well-planned and integrated subsystem requirements. Accordingly, successful business-wide integration has been recognized by Bititci (1995) as an important factor for competitiveness of a manufacturing business.

Karapetrovic and Willborn (1998), in discussing system integration, stated, "A system is a set of processes and resources that are designed and performed in order to achieve a desired objective, such as a product" (p. 205).

ERP is referred to as a business management system that integrates all facets of a business, including planning, manufacturing, sales, and marketing. However, ERP is inward looking, and this limits its role in today's increasingly competitive supply network, which requires seamless communication between each partner in a supply-chain. To truly prosper in today's increasingly competitive business environments that rely heavily on information and communication technology (ICT), the enterprise must look for a way that enables integration with a network of suppliers and customers. A new concept—namely, the extended enterprise—that fits this purpose has emerged. An extended enterprise is referred to as a form of enterprise that integrates suppliers, manufacturers, and customers in a supply-chain through the effective use of ICT in order to improve information flow and communication between partners, with the ultimate goal of satisfying customers' needs in terms of speed and information accuracy (Weston, 2003).

A review of the literature and case studies evidence suggests that as the ERP methodology has become more popular, software applications have emerged to help business managers implement ERP in business activities such as inventory control, order tracking, customer service, finance, and human resources (Bendoly & Jacobs, 2004). This has led to the development of a new application—namely, the EEA. EEA supports the ideas of supply-chain integration, enterprise application integration (EAI), business process optimization, and customer relationship management (CRM), which collectively aim to offer modern industries with an architecture that could link suppliers and customers with an enterprise's internal business processes. EEA is a tool to help an enterprise to become an extended enterprise.

One of the biggest value-added features of ERP is being able to talk to other software applications. This is supported by EAI to integrate modules internally to an enterprise and by Web services, point-to-point communication using some form of extensible markup language (XML) or other agreed form of information exchange externally to an enterprise. With such an advanced ICT to support the use of EEA, it is likely that its integration with ERP could lead to the formation of an extended enterprise (Loh et al., 2006). Nevertheless, it is not clear whether industrialists would welcome the

idea of transformation to an extended enterprise, and it is projected that issues related to security and compromises of private and confidential information with and between suppliers, manufacturers, distributors, retailers, and customers will be debated.

EVOLUTION OF ERP AND ERP II

At the strategic level, an ERP system is defined as an integrated application program for enterprise business organization, management, and supervision (Davenport, 1998). ERP collects all the functionalities of stand-alone applications using standard software, making it compatible with different business processes. At the operational level, ERP is a game plan for planning and monitoring the resources of a manufacturing enterprise, including the functions of manufacturing, marketing, finance, and engineering.

ERP evolved from a material requirements planning (MRP) and manufacturing resource planning (MRP II) system (Chung & Snyder, 2000). ERP represents the application of the latest IT to MRP II systems, and it is related to the fundamental techniques of MRP in that if they are used as a production planning and control tool, they follow the same MRP release logic (Miltenburg, 2001). Therefore, the outputs (i.e., planned order release [POR] schedules) generated from such a tool are identical. Within an ERP system, this will be generated from the production planning (PP) module. ERP's planning capability could offer substantial gains in productivity, dramatic increases in customer service, much higher inventory turns, and a greater reduction in material costs, if it is used efficiently and is facilitated by necessary support. One of the main functions of ERP is to gather fragmented departmental information into a single, integrated software program that runs off of a single database so that a number of departments can easily share information and communicate with each other. In short, ERP is replacing early MRP and MRP II systems. Using the MRP metaphor, it consists of software that integrates front- and back-office information systems within the enterprise.

The ERP software market has been growing at a very fast pace from the year 1993 to 1997, and it has been predicted that the current growth rates of 35% to 40% will be sustained in the long term (Bingi, Sharma, & Godla, 1999). Many large enterprises have already utilized ERP systems to support their business-to-business (B2B) and business-to-consumer (B2C) activities. According to an ARC Advisory Group (*Business Wire*, 2004) study, the large ERP system vendors are SAP, BaaN, and ORACLE, and the worldwide market for ERP was US\$9.10 billion in 2003 and is forecast to be over US\$12 billion in 2008, growing at a compounded annual growth rate (CAGR) of 5.7% over the next 5 years. In parallel to using ERP, some enterprises have also used other and more advanced scheduling tools to support their planning activities—for example, advanced production scheduling (APS; Tinham, 2002)—and added a

decision support system to ease reuse of standard software components (Worley, Castillo, Geneste, & Grabot, 2002).

Johnston (2002) stated that the U.S. enterprise system software market in 2001 was approximately US\$47 billion, of which 40%, or about US\$19 billion (growth was about 6%), was attributable to ERP applications. It was suggested that due to the size of this market, ERP would dominate the future of enterprise systems. However, we must be able to recognize the importance of differentiated solutions, in this study we consider ERP II. To simplify this somewhat, some software applications and implementations are more important than others are. For example, software investments in enterprise applications with return on investment (ROI) potential such as implementations that would contribute to a gain in market share or market advantage (e.g., first to market) or contribute to major cost reductions should have a higher priority than applications that do not generate revenue or customer impact. Similarly, applications that offer speed to market, design for production, DFMA, enhanced product quality, reliability of delivery date commitments, or after sales customer response advantages must have priority over applications that pertain to human resources (HR), personalization, or internal systems that do not influence revenue, costs, or customer satisfaction. Enterprises must also quickly learn to differentiate and prioritize those applications and implementations that possess the potential for bottom-line impact. For example, personalization portals, thought interesting because of the focus on employees and their ability to access HR-type information quickly, do not possess the ROI potential when compared to applications such as extranet-based portals designed for high-priority customers or critical vendors.

To enable integration and linkage with external suppliers and customers, today, a new concept called ERP II, which represents an extended version of ERP, has emerged (Weston, 2003). ERP II supports the concept of an extended enterprise through

- the integration with suppliers to develop a 21st-century supplier network via linking the ERP system with selected vendors to enable improved supply-chain management (SCM); and
- the integration with customers to develop a 21st-century customer network via linking the ERP system with customers to enable improved customer relationship management (CRM).

Any enterprises that have already implemented and used ERP and that are aiming to stimulate stronger SCM and CRM would be the ideal potential beneficiaries of this concept of becoming an extended enterprise via upgrading their ERP system into an ERP II system.

ERP II fully utilizes real-time information flow, also known as information integration. Bowersox, Closs, and Cooper (2002) highlighted that the information integration makes customer demands, inventory, and production visible

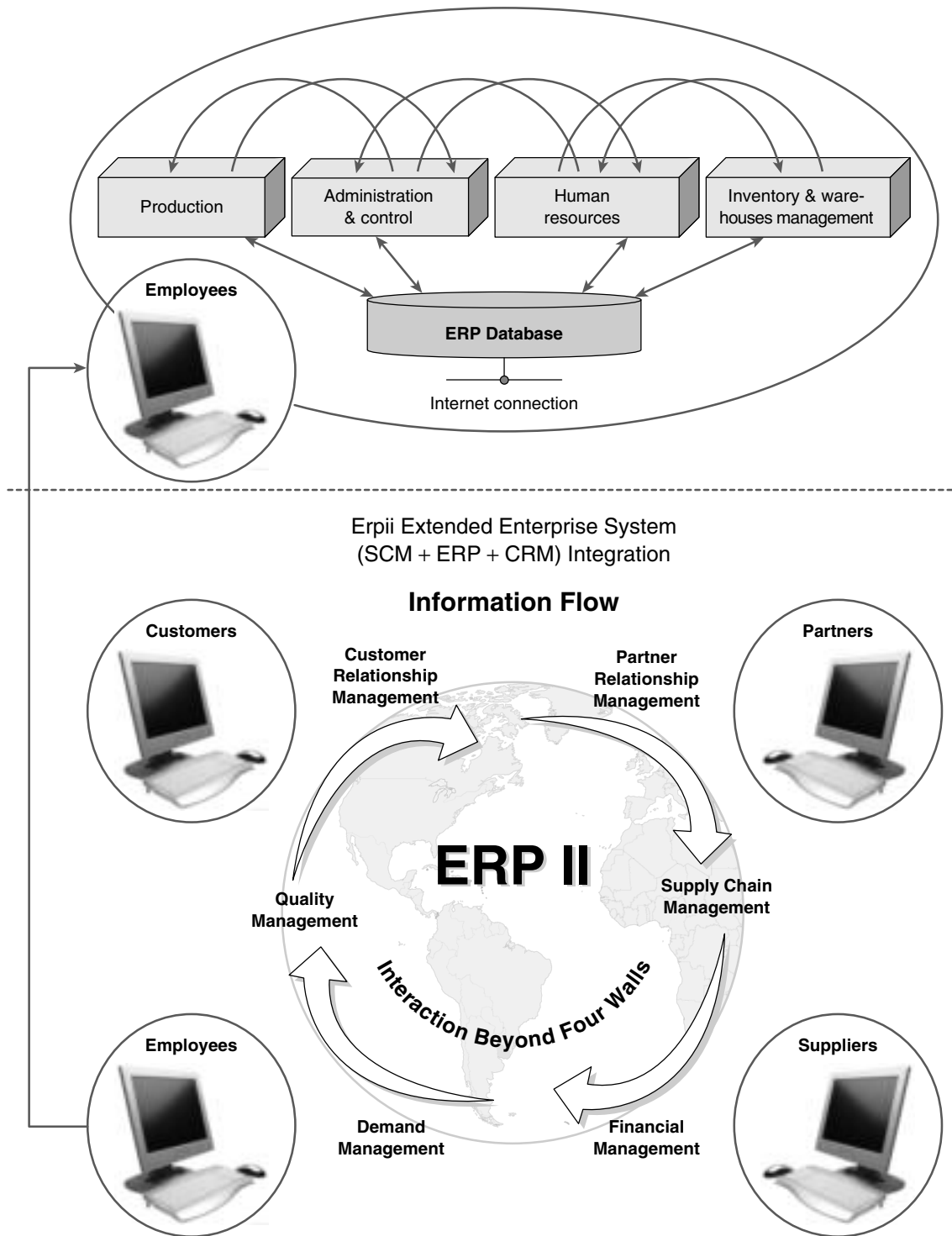


Figure 42.1 The Difference Between ERP and ERP II
 SOURCE: Adapted from Loh et al., 2006.

throughout the supply-chain, which creates a basis for collaborative planning and forecasting. Such information integration aims to reduce uncertainty faced by supply-chain members, reduce inventory buffers by postponing costly value-added operations, and may provide better customer service with more flexible response to customer demand. This allows supply-chain partners to attain significant productivity gains. The fruits of information integration such

as reduced cycle time from order to delivery, increased visibility of transactions, better tracing and tracking, reduced transaction costs, and enhanced customer service offer greater competitive advantages for all participants in the supply-chain (Christopher, 1998). Figure 42.1 shows the difference between ERP and ERP II.

Weill, Subramani, and Broadbent (2002) reported that on average, an enterprise spends more than 4.2% of annual

revenue on IT, accounting for more than 50% of its capital expenditure budget. It is clear that these businesses expect a high return from these ongoing investments. It was also concluded that these billion of pounds and dollars invested in technology that are used to generate huge volumes of transaction data can be misspent if the investments fail to convert data into knowledge, followed by business results (Davenport, Harris, De Long, & Jacobson, 2001). Hence, it is important to understand the value of becoming an extended enterprise and its potential business return.

THE ERP II ARCHITECTURE AND SUPPLY-CHAIN INTEGRATION

This section discusses the roles of EEA and EAI in ERP II architecture to support supply-chain integration. EEA supports the ideas of supply-chain integration, enterprise application integration, business process optimization and CRM, which collectively aims to offer modern industries with architecture that could link with—and extend to—supplier networks and customers the internal business pro-

cesses within an enterprise. Figure 42.2 shows the role of EEA as a tool to help an enterprise to become an extended enterprise. It also shows how EAI serves as a bridge between two different platforms. EAI aims to standardize and integrate heterogeneous systems within an enterprise before considering an external integration with suppliers and customers to become an extended enterprise.

Bowersox et al. (1999) noted that the objectives of supply-chain integration can be formulated along six different lines—namely, (a) customer integration, (b) internal integration, (c) material and service supplier integration, (d) technology and planning integration, (e) measurement integration, and (f) relationship integration. They also derived an idea of integrated management, which has three features—namely, (a) to establish collaboration within a competitive framework, (b) to develop enterprise extension as the central thrust of expanded managerial influence and control beyond the ownership boundaries of a single enterprise, and (c) to use an integrated service provider due to the increasing outsourcing activities within supply-chains.

Likewise, Lee (2000) outlined three dimensions of supply-chain integration: (a) information integration, (b) coor-

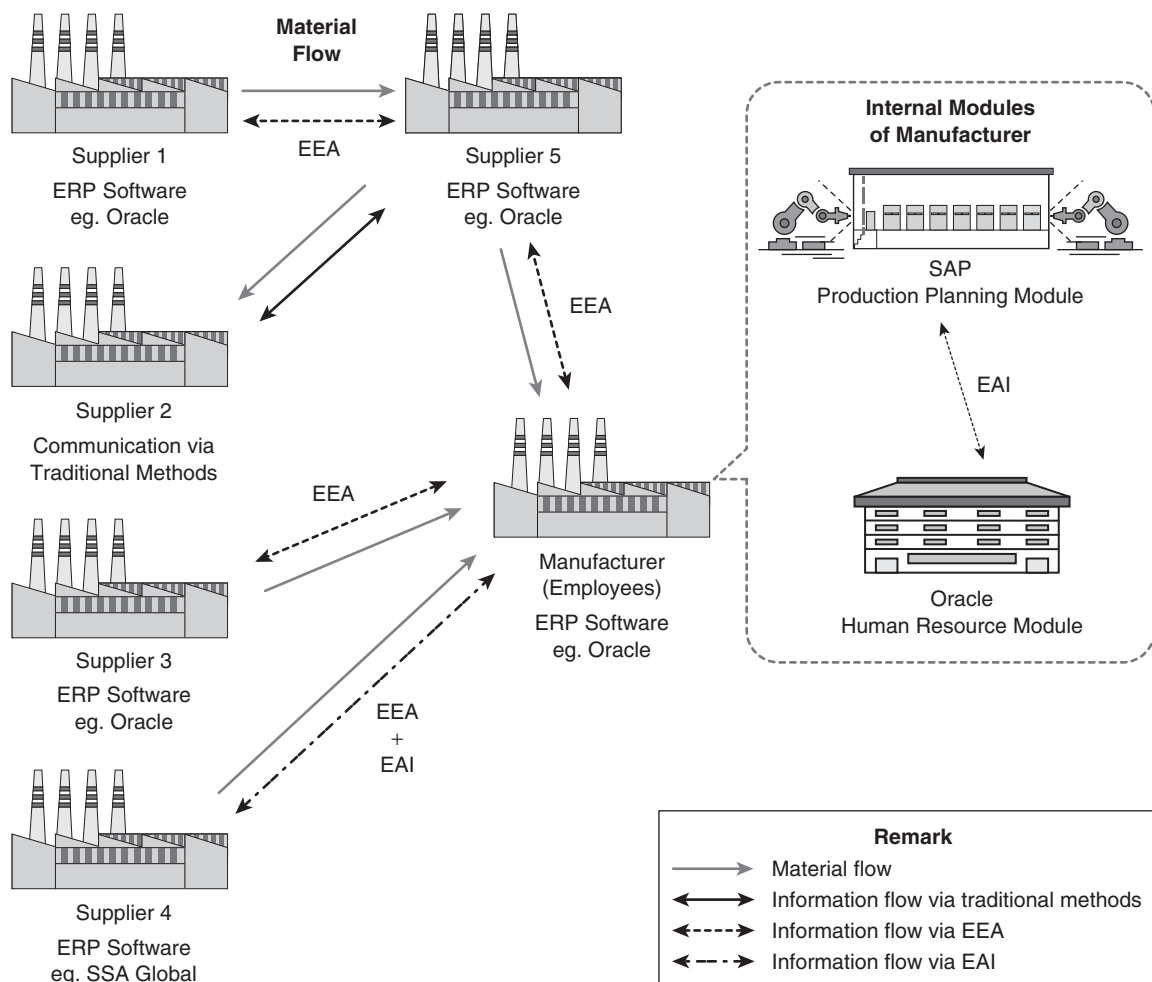


Figure 42.2 The Roles of EEA and EAI in ERP II Architecture
SOURCE: Adapted from Loh et al., 2006.

dination and resource sharing, and (c) organizational relationship linkages. Information integration refers to the sharing of information and knowledge among the members in the supply-chain, including sales forecasts, production plans, inventory status, and promotion plans. Coordination and resource sharing refers to the realignment of decisions and responsibility in the supply-chain. Organizational relationship linkages include communication channels between the members in the supply-chain, performance measurement, and sharing of common visions and objectives. Hence, it is clear that true electronic-based supply-chain integration requires the support of an ERP II architecture.

Enterprises can deploy ERP II to reduce the business risk such as outdated data that leads to wrong decision making. This is because various business functions ranging from placing orders to making purchases and receiving payments are now being carried out electronically and with a minimum of human input. In order to achieve that, EEA and EAI were there to support and facilitate the upgrading process of current ERP system. Generally speaking, many researchers have pointed to information system fragmentation as the primary culprit for information delays and distortions along the supply-chain (McAfee, 1998).

As a result, in today's competitive market, ERP II will potentially generate more benefits to enterprises in a supply-chain if more collaboration between enterprises is targeted and achieved.

Many benefits could be expected from using EEA. For example, rekeying data will become a thing of the past, and the need to print purchase orders, acknowledgments, and so on will disappear as the system automatically manages these tasks and warns the enterprise if certain events did not occur or need to occur. As supply-chains become more integrated and business processes are automated, the supply-chain will require less day-to-day management.

The use of EEA is expected to increase the supply-chain information velocity, to allow greater product customization, and to lower the cost of doing business. Some concerns are also identified in addition to those included in the questionnaire for the interviews. Overall, the findings suggest that the objective of becoming an extended enterprise is worth pursuing after consideration of the potential value that could be gained from using EEA.

Most enterprises with similar objectives decided to collaborate on inventory management, new product development, or marketing activities, to mention just a few examples. Due to goal commonality and the kind of information shared, this relationship typically presents a medium- to long-term commitment. Such a commitment and collaboration often leads to strategic benefits for both partners. With regard to this kind of relationship, one of the main and most critical themes debated in the literature is trust between enterprises. Obviously, it means some sort of confidentiality compromise or that an agreement exists between enterprises. The choice between these different kinds of relationships depends on both the supply strategies of the enterprises involved and the characteristics of the purchased

items. Williamson (1979) argued that the use of the Internet leads to reduced transaction costs, that products are easier to describe, that specificity of assets has been reduced, and that information transfer on the markets is far more efficient. These conditions lead to the so-called frictionless commerce paradigm (Brynjolfsson & Smith, 2000).

One of the main issues affecting the future of ERP II systems is the role of IT-based standards organizations such as the World Wide Web Consortium (W3C). A major role of these organizations is to serve the function of determining an agreed set of standards and protocols for communicating over the Net both within and between enterprises. Clearly, a unified set of standards independent of hardware and software vendors and individual products is in the best interest of enterprises that are expanding global businesses and expediting business communications. Clearinghouses dealing with functionality, such as digital signatures, have a similar function to facilitate and expedite business communications between enterprises. Based on global communication standards, business processes will quickly be brought onto the Internet. Differences in processes from enterprise to enterprise will become largely transparent, but not unimportant. What is important is the ability to quickly and seamlessly communicate process results, details, events, and outcomes between enterprises in a common and consistent format and independent of language or location.

Loh et al. (2006) suggested that many enterprises are willing to embark on ERP II system and the main rationales/benefits behind this plan are generally because ERP II

- can further enhance the transparency of the operations within the enterprise;
- is easy to use with a single system platform;
- will reduce the lead time between information sharing;
- is able to share data across the departments, suppliers, and customers;
- will reduce all aspects of waste with consolidated data;
- can provide maximum control over the production schedule;
- can improve the overall customer satisfaction level;
- can enhance the usage of raw materials planning-production optimization;
- can improve the forecasting with "what-if" flexible planning features; and
- is able to generate real-time reports instantly, which facilitates better decision making and planning.

Nevertheless, any vision of the future of ERP II would not be complete without including the role and importance of business process reengineering (BPR) and the use of real-time supporting technologies such as radio frequency identification (RFID). For many enterprises, implementing ERP II and engaging in an analysis of business processes are synonymous. Processes may be reengineered without an ongoing ERP II implementation; however, an ERP implementation without significant BPR would be a rare and risky event. BPR has evolved from the radical

restructuring of business processes originally called for by Hammer and Champy (1993) to an approach focused more on value-added activities and relabelled as business process management (BPM), as espoused by Smith and Fingar (2002). Today, terms like *lean*, *agile*, and *collaborative* all connote a basic theme: that processes are adaptable, flexible, responsive, and provide ongoing business value. Data relevant to both customer orders and the effectiveness of business processes will be crunched with the aid of enterprise systems in such a way that corporate decisions can be made more accurately and more cost efficiently. BPR/BPM will increasingly take on an IT focus that continually examines internal bottlenecks and the means of managing resources in such a manner that throughput is maximized with optimal profitability.

RFID APPLICATIONS FOR SUPPLY-CHAIN MANAGEMENT

RFID is an automatic identification method that relies on storing and remotely retrieving data using devices called RFID tags or transponders (Kelly & Erickson, 2005). An RFID tag is a small object that can be attached to or incorporated into a product, animal, or person. RFID tags contain silicon chips and antennas to enable them to receive and respond to radio-frequency queries from an RFID transceiver. Passive tags require no internal power source, whereas active tags require a power source. Various tag classifications and radio frequency bands, with their benefits, drawbacks, and common applications, can be found in Sullivan and Happek (2005).

An RFID system may consist of several components: tags, tag readers, servers, middleware, and application software. The purpose of an RFID system is to enable data to be transmitted by a mobile device, called a tag, which is read by an RFID reader and processed according to the needs of a particular application. The data transmitted by the tag may provide identification or location information, or specifics about the product tagged such as price, color, date of purchase, and so forth.

RFID is simply an enabling technology that has the potential of helping enterprises provide the right product at the right place at the right time, thus maximizing sales and profits. RFID provides the technology to identify uniquely each container, pallet, case, and item being manufactured, shipped and sold, thus providing the building blocks for increased visibility throughout the supply-chain.

The use of RFID in tracking and access applications first appeared during the 1980s. RFID quickly gained attention because of its ability to track moving objects. In a typical RFID system, individual objects are equipped with a small, inexpensive tag. The tag contains a transponder with a digital memory chip that is given a unique electronic product code. The interrogator, an antenna packaged with a transceiver and decoder, emits a signal activating the RFID tag so it can read and write data to it. When an RFID tag passes

through the electromagnetic zone, it detects the reader's activation signal. The reader decodes the data encoded in the tag's integrated circuit and the data is passed to the host computer (Baker, 2001). The application software on the host processes the data, often employing physical markup language (PML).

Wal-Mart and the United States Department of Defense have published requirements that their vendors place RFID tags on all shipments to improve supply-chain management ("Beaver street fisheries stands to benefit from Wal-Mart's RFID mandate" 2004). Due to the size of these enterprises, their RFID mandates impact thousands of enterprises worldwide. The deadlines have been extended several times because many vendors face significant difficulties implementing RFID systems. In practice, the successful read rates currently run only 80%, due to radio wave attenuation caused by the products and packaging. In time, it is expected that even small enterprises will be able to place RFID tags on their outbound shipments. It can be noted from these findings that RFID impact on the supply-chain started on the high gear from the retail and defense industries.

Since January of 2005, the leader of RFID application for retail supply-chain management—Wal-Mart has required its top 100 suppliers to apply RFID labels to all shipments (Boyle, 2003). To meet this requirement, vendors use RFID printer/encoders to label cases and pallets that require EPC tags for Wal-Mart. These smart labels are produced by embedding RFID inlays inside the label material and then printing bar code and other visible information on the surface of the label.

Since then, an increased wave of RFID applications in various industries for supply-chain management can be identified, both by the academic and industry domains.

BENEFITS AND DRIVERS OF HAVING RFID IN SUPPLY-CHAIN MANAGEMENT

While research has been conducted on RFID, it has tended to focus on the specifics of the technology (Gould, 2000; Niemeyer & Pak, 2003; Porter, Billo, & Mickle, 2004). Prater, Frazier, and Reyes (2005) claimed that the missing link in RFID research is the investigation of the market drivers pulling RFID applications for supply-chain management. As such, they studied the drivers for RFID applications for grocery retailing and developed a research framework for future applied research on RFID implementation. Despite the useful proposed theoretical framework, it suffers from the lack of diversity to include the impact of RFID applications for supply-chain management in other industries (Koh, 2006).

Today's retailers, consumer products manufacturers, and logistic enterprises find themselves stuck between two forces (IBM, 2004b). On one side, they have a demanding consumer base willing to spend top dollar for new luxury items while simultaneously calling for economically

priced basics. On the other, they have poorly structured supply-chains that focus on optimizing internal systems rather than on delivering consumer value (Koh, 2006). A primary driver of competitive advantage lies in building a supply-chain that is fast, responsive, and flexible—all while maintaining a focus on delivering value to the end consumer. To achieve this, RFID applications driven for inventory tagging, reducing cost, increasing accessibility, improving security, providing real-time data, managing a warehouse, and logistics tracking have been flying off in these sectors (Koh, 2006).

According to the IBM business case analysis, it was found that RFID applications could potentially increase data collection productivity for inventory and shipping by 10% to 20%, while maintaining virtually 100% accuracy; enhance retail store productivity by approximately 5%, redirecting labor to more crucial customer-facing activities; resolve approximately 33% of store execution issues; and reduce manufacturer shrinkage by 67% and retailer shrinkage by 47% (IBM, 2004b). This evidence shows that the benefits of using RFID have attracted many enterprises to reconsider and restructure their supply-chains.

RFID Versus Barcoding Technology

The key benefit of RFID tracking over barcodes is that the physical line of sight needed for barcode scans is not required in the case of RFID, making it generally more efficient than traditional barcoding. This enables the near simultaneous “scanning” of many pallets and cases fitted

with transponders that are, for example, passing through a dock door equipped with an RFID reader system (Koh, 2006). Barcodes would require each item to be scanned individually, which takes more time and requires specific positioning of labels. There are many more touch points along the supply-chain where inventory equipped with RFID transponders could be tracked, and there are numerous ways this improved visibility could be put to good use. It has the potential to improve efficiency and visibility, reduce costs, deliver better asset utilization, produce higher quality goods, decrease shrinkage and counterfeiting, and increase sales by reducing out-of-stocks (Koh, 2006).

Real-Time Data Capture

Different tag types have a broad range of options for data content and read-write capabilities. The communication of this data could be integrated for near real-time event management and decision making. For example, RFID can be integrated with sensors to record and store changes in temperature, movement, or other environmental conditions (Koh, 2006). The data type in a supply-chain that could be captured through RFID includes order data, production data, logistic data, quality data, location data, supplier data, customer data, and so forth.

Being able to answer questions such as, “Where are the assets right now?” or “How many assets are there right now?” will allow enterprises to automate business processes and decision making. This suggests for RFID integration within enterprise architecture. Figure 42.3 shows

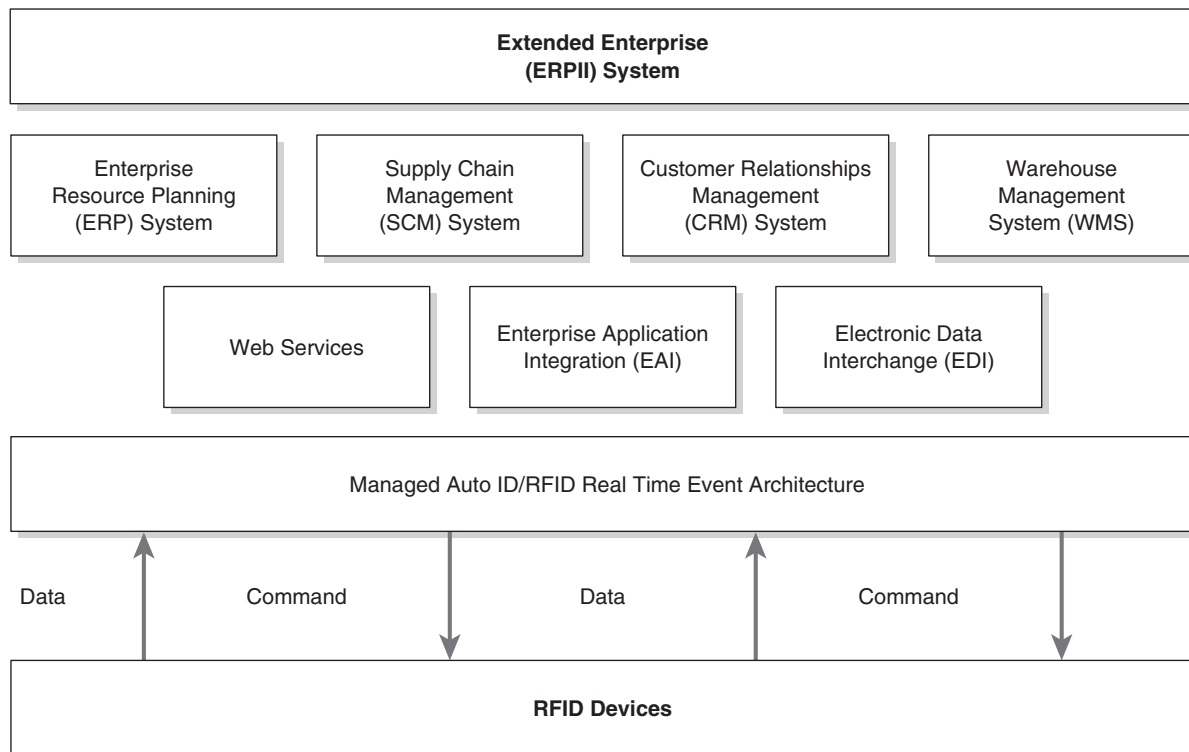


Figure 42.3 Real-Time Enterprises Through RFID in ERP/II Environment
SOURCE: Adapted from Koh, 2006.

the layers in software architecture for real-time enterprises through RFID in ERP/II environment (Koh, 2006).

The lowest layer denotes the level where data is entered to the system architecture through data entry devised for RFID information. This layer connects to the RFID real-time event architecture, which is then communicated with the business applications layer, for example, ERP. Since the event information and processes are stored and processed in the middleware, outlay for system integration is kept to a minimum. Nonetheless, business processes do still need to be optimized in this layer (Bitkom, 2005).

Increased Visibility

RFID technology has the ability to track items in real-time as they move through the supply-chain with more touch points that would be possible using a conventional barcode scanning solution. By tracking items in the near real-time, users of RFID technology have greater visibility to their supply-chain, providing opportunities to lower inventory carrying costs, as well as reducing the need for storage warehouses, thereby improving cash flow, boosting productivity and reducing overheads (Koh, 2006).

Reduced Shrinkage

Shrinkage has long been a supply-chain problem, particularly for high-volume goods. RFID is expected to help pinpoint the specific spot where the problem is occurring and ultimately help prevent the problem with the availability to monitor the movement of goods throughout the supply-chain more closely with RFID tracking. This could reduce shrinkage and prevent theft (Koh, 2006).

Tags Durability

In order to function properly, barcode readers must have clean and clear optics, and the labels they are reading must be clean and free of abrasion. RFID, on the other hand, enables tag reading from greater distances—up to 100ft for active tags—even in the most challenging environments. Barcodes can be easily marred or otherwise damaged in diverse operating environments, and radio frequency tags are typically much more durable (Koh, 2006).

Cost Effectiveness

The key to delivering all these benefits is cost. The falling price of RFID tags is a driver for the technology. The price ranges from 10 cents to 50 cents per tag. Tag pricing is critical. Industry is hoping that tag manufacturers can hit 5 cents per unit, and that is being regarded as a breakthrough level. In the coming years, at least, we are likely to see RFID tags and barcodes existing side by side (Koh, 2006).

In general, RFID has been applied in diverse industries including retail, manufacturing, logistics and distributions,

airport baggage tracking services, and pharmaceutical sectors, among others. It is the retail industry that drives RFID adoption. It has been estimated that the U.S. retail industry loses approximately US\$30 billion annually due to product not being on the shelf (IBM, 2004a); hence, RFID applications for supply-chain management in the retail industry will continue to grow. Nevertheless, a holistic overview of RFID applications for the supply-chain management in multi-industry is still lacking (Koh, 2006).

MAJOR OBSTACLES TO VISIONS FULFILLMENT

There are several land mines and pitfalls that could prevent any of these visions for the future of enterprise systems from becoming a reality. Comprehensive studies on the return from large-scale enterprise systems have produced results focusing on the lack of top management support, project management implementation issues, and people/organizational issues contrasted to technology issues. There are many common threads from all these studies (Loh & Koh, 2004). One involves issues of change management, a point Nestlé learned well, as described by Worthen (2002) in a report that includes issues of risk assessment, ROI analysis, and impacts on change management on the overall business culture. The whole issue of uncertainty that can undermine a project was the subject of a related study by Loh and Koh (2004).

Weston (2003) highlighted several additional issues that need to be carefully examined as part of any vision of the future for a large-scale extended enterprise system such as ERP/II. These are

- training to include both potential users of the system and management representing all stakeholder areas of the enterprise, plus major customers and vendors;
- incomplete unit, integration, system, and user acceptance testing;
- failure to take into account global stakeholders—for example, a foreign partner's local culture impacting a large-scale enterprise project;
- overall project size, including issues of scope/areas, buy-in from user groups, and an agreed plan for module implementation;
- a failure to implement an effective communication system that includes the project manager and sponsor, a steering committee, and major stakeholders;
- regular project updates with a “death march” syndrome (Yourdon, 1997) that includes unrealistic deliverables or deadlines;
- bad data, including not understanding the magnitude of the master data problem when implementing any new ERP/II-type system;
- clinging to outmoded legacy systems; and
- the inability and/or unwillingness to focus on business (value-added) metrics (revenue, cost, customers).

Collectively, any plan for an ERP system outlined above must take into account numerous management and people issues that have the potential to disrupt any long-term vision of top management (Loh & Koh, 2004) and to proceed with an integrated extended enterprise planning and execution system. The future of extended enterprise systems clearly includes an IT perspective in which enterprises, customers, and vendors/suppliers are all linked electronically.

There would be risk involved for all kinds of implementations. Understanding the role and importance of resistance to change, local culture issues, training, testing, BPR/BPM, and good project management are all important for successful implementation (Loh & Koh, 2004). Any vision of future enterprise systems must recognize the role to be played by the Internet as a communication medium. However, it is the people within the enterprise seeking to implement an ERP strategy that will determine its overall success or failure. Weston (2003) stated that people plus bad data can disrupt any well-intended extended enterprise system integration strategy.

Overall, Loh et al.'s (2006) findings support these points from the literature and the implementation of ERP requires in-depth analysis and scrutiny studies to be done. However, it is clear that the potential benefits from using ERP, particularly to integrate the supply-chain may outweigh the cost. Looking ahead as enterprises move through the 21st century, new technologies such as data standardization, data mining, data warehousing, connective technology, and the use of biometrics authentication requirement to support the operations of ERP will be the future directions for both practitioners and researchers to investigate on.

CONCLUSION

Speed is of the essence in today's fast-paced marketplace. Arriving too late is almost as bad as never getting there at all. Once again, the key to achieving speed is the ability to bring the whole workflow together from shop floor to warehouse to customer delivery. To do that, the enterprise needs an extended ERP solution that is able to integrate their operations and achieve instantaneous information exchange with their suppliers and customers.

A lot has changed in the flexibility and functionality of systems and in how these solutions can be deployed to reduce the business risk. Probably the biggest value-adding features revolve around the ERP software being able to talk to other software applications. Inside an enterprise, this is known as EAI, while outside an organization, this will involve Web services, point-to-point communication using some form of XML or other agreed form of exchange. With little effort, the communication between the various software programs can be integrated. Rekeying data will become a thing of the past, and the need to print purchase orders, acknowledgments and so on will disappear as the system manages these tasks automatically and warns if

certain events did not occur or need to occur. This is all part of "business process orchestration."

Business process orchestration will allow the firm to define business processes (within, outside, or across organizations) and to identify the transactions that make up the events in a process. For example, a machine breakdown event on the factory floor could trigger a purchase order for a replacement part. This will be automated using defined business rules. When an event occurs, ERP can send a message to the initiator of the process—or to the fitter waiting for the part to turn up before an urgent job can recommence.

In addition, systems have become more "intelligent," and ERP systems are able to identify the user, what the user's information needs are, and how the user can best utilize the information available. Users of the system can now be in-house or they could be an authorized customer or a vendor/supplier accessing internal services through the Web, from their own offices, using either EEA or EAI. This ease of access delivers significant improvements in productivity and ease of use. As supply-chains become more integrated and as business processes are automated, the supply-chain will require less day-to-day management. Instead, it will be driven to manage exceptions, and much of the traditional manual operations will be handled by ERP software. This will mean more time to focus on improving the way the supply-chain fits together, reducing inventories, and improving productivity.

It can be concluded that the use of EEA and RFID in ERP is expected to increase the supply-chain information velocity, increase product customization, and lower the costs of doing business. However, we need to be made aware of the obstacles prior to implementing ERP and becoming an extended enterprise.

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BUSINESS PROCESS OUTSOURCING MANAGEMENT ISSUES

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Innovation is an essential and enduring aspect of any human enterprise. Management of contemporary organizations is no exception. Amidst globalization and technological breakthroughs, the industrial economy that dominated the 20th century is slowly but steadily giving way to an information or knowledge economy. This new economy is characterized by a rapidly globalizing world, radical technological advancements, hyper competition, ever-changing business and management models, and associated constant change and uncertainty. Revolutionary technological developments in information technology, communications, production, and infrastructure have made it possible to produce goods and services in one part of the country, region, or indeed the world, for consumption in another part.

Accompanied by these changes, business process outsourcing (BPO) has quickly emerged as a key business strategy in the last decade or so. More than half of Fortune 500 companies are outsourcing and off-shoring to varying degrees, and others are actively considering them. According to Gartner, a research consultancy firm, the worldwide BPO market was worth \$132 billion in 2006 (Singh, 2006). The most outsourced services included vertical industry operations, customer relationship management (CRM), supply management, human resource management, finance and accounting, payment services, and administration services. The main objectives of companies that considered BPO were to focus on business functions that helped to create competitive advantage, reduce costs, and improve service levels.

BPO is also very controversial. While business leaders heap praises on BPO's merits and stress the necessity of BPO as a key sustainable competitive advantage, critics,

including many political leaders and trade unionists, blame it for loss of jobs, especially when it includes off-shoring. BPO is not just a business strategy but encompasses broad economic, technological, and social aspects. While it is underpinned by technical innovations, its success depends on how the social and human aspects are managed.

Outsourcing essentially involves redefining the boundaries of the organization. It can range from peripheral activities such as security and cleaning to major organizational change with significant impact on organizational structure, employee skills, and performance management. If managed appropriately, BPO can result in significant performance improvements and productivity gains and offer strategic and competitive advantages to the organization.

As with any other management concept, organizations need to pay careful attention in evaluating whether outsourcing is beneficial and if so, in what areas. Once a decision to outsource is made, selecting an appropriate vendor and defining the relationship and performance parameters need to be carefully managed. Failure to manage the outsourcing process can result in serious consequences, such as decline in revenue, customer backlash, and employee demotivation. The success of outsourcing is in its governance. It is not a silver bullet to solve the internal organizational problems.

OVERVIEW OF BPO

What is BPO? Why is it important? How should it be managed? To answer these questions, one needs to understand

the way business is conducted and the environment in which it is conducted. As a business enterprise evolves, it is structured into several functional areas for better organization such as design, production, materials management, logistics management, marketing, finance, and human resources. These functions, however, are interdependent and therefore, need to work together for the overall success of the organization.

Depending on the nature of the organization, the activities are divided into core and noncore functions. The core activities are central to the organization and have direct bearing on the success of the organization. The noncore activities are supportive or secondary functions. The division of activities is also dependent on how the organization defines its business processes. A business process combines various inputs to create an output that is of value to the internal or external customer. A well-defined business process is customer centric, that is, it is meant to serve the customer. It is designed to address many of the problems with traditional organizational structures which create a huge and unwieldy bureaucracy that impedes rather than addresses customer service.

Organizations need to continuously evaluate and improve business processes to suit the business environment in which they operate. The key considerations are reducing cost, gaining efficiency, and improving customer service. This calls for business process reengineering. One of the major reengineering initiatives in the recent past is outsourcing of noncore business functions. BPO refers to the shift of noncore business processes from internal management to outside third-party providers. The outsourced activities may not be the core part of an organization, but that is not to say that they are less important. For example, some of the most outsourced processes such as payroll and benefits administration and customer call centers are an important part of any organization but they are outsourced simply because a third party can provide them faster, better, and cheaper. Further, as organizations gain experience in outsourcing and develop maturity in managing the process, they may start outsourcing even their core functions and processes.

To understand why BPO is becoming so popular, let us look at the outsourcing of payroll and benefits administration. This function or business process is responsible for calculating and timely payment of wage and salaries and other employment benefits such as superannuation, leave administration, and medical expenses. Depending on the size and complexity of organizations, this function is run by a number of people using an appropriate information systems package with considerable fixed costs. While this function is important to serve the internal customers, that is, employees, it is a noncore function. Such functions are often better handled by third-party providers who specialize in such activities by servicing several companies at a time, enabling them to spread their fixed costs and achieve economies of scale. They also acquire specialist knowledge in how best to deliver these services and can invest in new

technologies. Therefore, they are able to deliver the services cheaper, better, and faster.

Outsourcing is not just confined to large organizations. They may equally benefit small- and medium-sized enterprises (SMEs). For example, a small firm may decide to outsource such functions as billing and customer service, statutory compliance reports, accounting and taxation, human resource management services, and packaging and shipping. By outsourcing such activities, firms can tap into external expertise and technological advances without having to invest in them and maintain flexibility in the scope and scale of their operations. Even not-for-profit organizations, such as Red Cross, can better spend their money and offer faster and better services by outsourcing procurement and transport of supplies to remote regions of the world.

Outsourcing, however, is not right for every organization, every time, and every activity. As with any management concept, it is not just the idea but the way it is actually implemented that determines its success. Organizations and business leaders that embrace a concept simply because it is the latest fad, ignoring organizational realities, are bound to fail. Outsourcing is a complex process and can prove to be costly and damaging if not handled well. It requires a good understanding of what and when to outsource, whom to outsource to, and how to manage outsourcing on a sustainable basis. For example, if the corporate culture of the organization is characterized by blame shifting, internal politics, and learning disability, then outsourcing may actually complicate matters further. Short-term and narrow objectives such as cost cutting without considering long-term implications can result in serious damage to the future of the organization. That is why outsourcing is a strategic business decision and tool.

Driving Factors

Globalization

The business world is rapidly becoming a global village. The decline of communism as an economic ideology; growing regional trade agreements and alliances, such as the European Union (EU), North American Free Trade Agreement (NAFTA), and Asia-Pacific Economic Cooperation (APEC); growing influence of the World Trade Organization (WTO) in defining trade agreements and arbitrating trade disputes, and so forth have all contributed to what Friedman (2005) refers to as the “flattening of the world.” The 21st century is most likely to be dominated by Asia with China and India quickly emerging as economic giants.

Comparative Advantages

According to Ricardo’s (1821) economic perspective, nations should compete with each other based on the relative advantages they derive from their natural resources, geography, intellectual capital, and so forth. For example, Singapore’s Changi Airport has emerged as the Asia-Pacific

hub for airlines primarily due to its location aided by entrepreneurial spirit and government support. India, which is home to more than a billion people, half of whom are under 25 years of age, produces several million university graduates every year, most of whom speak English and a considerable number who specialize in science, engineering, and technology (SET). In contrast, a majority of the Western countries have aging populations and suffer from skill shortages in SET. It is no wonder Indian workers are in demand worldwide for their skills. The difference in time zones across the world is another advantage of outsourcing and off-shoring. For example, most of the Indian call center operations take place at night time to cater to day time customer service in the United States.

The comparative advantages between nations and firms keep changing depending on circumstances and accordingly, they need to pursue their economic interests. For example, the Asian Tigers such as Singapore and Taiwan started as low-wage countries to attract direct foreign investment, but as their economies grew and became developed, they started outsourcing to other low-wage countries such as China. In recent times, China has emerged as the manufacturing hub of the world, and India is quickly becoming the services hub. India is called the “electronic housekeeper of the world” in recognition of its dominance in information technology (IT) and information technology enabled services (ITES) such as call centers.

Technology Trends

Transformational advances in transportation, production, information, and communication technologies have accelerated outsourcing in the manufacturing and service industries. For example, broadband Internet, enormous and secure data storage capabilities, analytic software, collaborative technologies, and so forth have revolutionized global information and communications enabling outsourcing and off-shoring in the information technology industry.

Global Pool of Creative Talent

Creativity and innovation are the lifeblood of the knowledge economy. With ageing populations and growing skill shortages, the Western economies are increasingly dependent on the global pool of knowledge workers. According to Florida (2002), creative people are highly mobile and willing to relocate for the best social, cultural, and economic opportunities anywhere in the world. The multinational corporations are therefore setting up their research and development (R&D) centers in places such as India, China, Ireland, and Israel, where there is a relatively abundant supply of scientists, engineers, and technologists.

Public Sector Reforms

In countries with liberal democracies, widespread public-sector reforms have resulted in privatization and liberaliza-

tion of public services in order to strengthen accountability for public expenditure and better returns on investments under competitive market conditions. These policies have often led to outsourcing of public services and civic amenities, such as electricity, water, education, health, and garbage collection to private providers. The public tender process for these services is aimed at awarding the service contract to the best bidder who can provide quality service at the least cost.

Hyper Competition and Demanding Customers

With increasing globalization, markets have become extremely volatile and competitive. Accordingly, organizations are being forced to cut costs to the minimum and strive for the best possible returns for shareholders, failing which investors will withdraw their investment and go elsewhere in search of better returns. Further, consumers are becoming increasingly demanding and sophisticated. Market-savvy customers search for products and services that meet global standards in quality, cost, and features. Outsourcing is increasingly seen to be a key business strategy to achieve maximum returns on investment and meet customer expectations.

Focus on Core Competency

Division of labor and specialization of tasks were two of the key scientific principles of management that dominated the 20th century industrial economy. In contemporary firms, streamlining or standardizing business processes across the organization results in restructuring of the organization to focus on activities in which the organization has core competency and outsourcing the rest.

Changing Organizational Structures

A bureaucratic organization with traditional hierarchical boundaries between departments and functions leads to waste of scarce resources, such as money, time, and efforts with duplication, poor quality, and cost blowout. Today’s quickly moving and changing world calls for flexibility and agility. Autonomous and cross-functional teams that facilitate networking and cooperation between people, jobs, and units by becoming flatter, more flexible, and responsive are therefore replacing bureaucratic structures. With reengineering of business processes and restructuring of work units, organizations are in a better position to determine which functions need to be carried out in house and which need to be outsourced.

Types of BPO

Outsourcing can be classified based on the location of the outsourcing provider or vendor, that is, where the work is performed. It can be on-site, that is, on the client’s

premises or off-site, where the vendors operate on their own premises. Off-site operations can be

- *onshore*, where the work is conducted within the same country as the client—for example, a vendor based in a regional or rural area may service a client based in a metropolitan center by leveraging on locational advantages such as lower cost of living and infrastructure;
- *nearshore*, where the work is performed in neighboring countries—for example, Canadian vendors servicing American clients or Eastern European countries offering low-cost services to Western European clients; or
- *offshore*, where the vendor's work location is in a country that is at a considerable distance from the client—for example, Indian and Chinese vendors servicing American and European clients.

In some cases, the vendor may operate both on-site and off-site at different stages of the project—for example, the information technology employees of a vendor may work on the client's premises during the project-needs assessment and analysis stage, go away to do the coding work, and then come back for implementation and maintenance work.

Outsourcing may also be classified based on the breadth and depth of work being performed, such as

- short term versus long term;
- single-process functions versus multiple-processes functions;
- low value, routine transactional work versus higher value, transformational strategic and knowledge-intensive work;
- process-oriented work (i.e., routine, structured, and standardized work, such as payroll processing) versus project-oriented work (i.e., unique and loosely defined work, such as R&D); and
- single vendor versus multiple vendors (also called, multi-sourcing) versus integrated vendor (different suppliers managed by a single vendor).

Functions That Are Most Outsourced

According to Srivastava and Theodore (2006), some of the functions that are most outsourced are

- *IT*: Systems integration and information systems consulting; Application development and support, IT training, and so on. In fact, IT plays such a pivotal role in BPO that almost all the functions covered by BPO are ITES.
- *Back-office data entry and processing; customer contact services* (such as complaints, telemarketing, collections support).
- *Finance*: Tax compliance and planning, financial systems application support, general and financial accounting, expenses processing, accounts payables and receivables, debt collections, financial reporting.
- *Human resources*: Payroll and benefits management, superannuation administration, employee help desk, training, recruitment and selection support, human resource informa-

tion systems (HRIS), and wage and salary administration.

- *Operations/logistics*: Order tracking/claims/application/payment processing.
- *Miscellaneous*: Cleaning, security, catering.
- *Knowledge process outsourcing (KPO)*: Knowledge services and decision support (such as customer analytics, claims and risk management and consultancy); R&D services (such as engineering design, content development and new product design); other professional services such as legal research, engineering, aviation, medical diagnostics and transcription, and clinical research.

Risk-Benefit Analysis

Benefits

Cost savings. Outsourcing may result in significant cost savings in overheads, labor costs, production costs, and so forth. For example, in call center operations where employee costs are significant, Indian call center agents cost one tenth of their Western counterparts and claim to offer better productivity. Outsourcing providers typically specialize in certain activities and can achieve cost savings through economies of scale. However, cost considerations need to be carefully weighed against long-term impact and sustenance of cost advantage, loss of organizational knowledge, and likely customer and community backlash.

Performance improvements. By focusing and specializing on particular activities and skills, outsourcing providers often achieve better performance standards in customer service quality. These are reflected in the service level agreements and measured by performance metrics.

Flexibility. In a quickly moving and uncertain business environment, flexibility is the key to manage the markets. By outsourcing, organizations can better manage sudden surges or drops in demand for their products and services, fix short-term problems in skills and supplies, reach the market with new offers faster than competitors, and cut expenses by not having to invest in new and costly technologies.

Focus on core activities. By outsourcing peripheral activities, organizations can direct their precious and scarce resources toward activities in which they have core competency to better withstand market pressures and improve their profit margins.

Risks

Loss of control. Organizations generally have greater control on internal activities. When activities are outsourced, the vendor exercises primary control on day-to-day activities, and any failure on the part of the vendor will directly impact the client.

Potential loss of organizational learning. Innovation and creativity are critical in a knowledge economy. With outsourcing, employees with critical skills may be lost resulting in adverse effects on the ability of the organization to be

innovative. The outsourcing providers may hold the key to new knowledge and exploit it to their advantage.

Managing costs. In evaluating any outsourcing proposal, the management needs to examine the sustainability of the perceived cost advantages in the medium to long term. Short-term gains may be offset by long-term losses. Poorly drafted service agreements can lead to unforeseen cost increases during the term of the agreement. If the performance expectations are not clearly spelled out or market conditions change unexpectedly, they may have serious implications on cost considerations. Many costs are intangible, such as potential loss of organizational knowledge and are difficult to quantify. There are also hidden costs such as the cost of managing the outsourcing arrangements, which may outweigh potential cost savings.

Cost of mismanagement. Outsourcing is often a major organizational change with serious implications for employee careers, organizational structure, and strategic capabilities. If mismanaged, outsourcing can cause irreparable damage to the future of the organization.

MANAGEMENT OF BPO

BPO is essentially managed by the client, that is, the organization is outsourcing the work, and the vendor, that is the external service provider performing the outsourced work. The client can be the whole organization or just part of it (e.g., an IT department), depending what and how much is being outsourced. The vendor, in most cases, is an external organization or as in some cases, a fully or partly owned subsidiary of the client. For example, IBM USA may outsource part of its work to IBM India. The nature and complexity of the relationship between the client and the vendor depend upon the size, scope, and importance of the project, that is the work being outsourced. For example, complex forms of work such as R&D are knowledge intensive, loosely defined, and involve multiple stakeholders over a longer period of time. Outsourcing of such work requires a more strategic and collaborative approach and a relationship between the client and the vendor. Therefore, this kind of work may only be outsourced after the vendor proves its credentials and trustworthiness to the client's satisfaction.

To successfully manage outsourcing, the managers need certain skills and competencies, such as decision making in an uncertain environment, change management, negotiation and relationship building, conflict resolution, communication skills, cross-functional team management, and knowledge management.

Outsourcing is a process-driven approach. Rather than taking a sudden and serious plunge into outsourcing, organizations fare better when making incremental progress and learning from experience. They need to acquaint themselves with the entire project lifecycle starting with the strategic assessment of the case for and against outsourcing (for a detailed description, see Power, Desouza, & Bonifazi, 2006).

Building the Business Case

Every organization has its own unique context—the products and services it offers, the market environment, strengths, weaknesses, opportunities, and threats (SWOT), business strategy, and core competencies in relation to its competitors.

Business-Value Assessment

This begins with categorizing core and noncore competencies. By starting with outsourcing noncore competencies, organizations can minimize risks by taking an incremental approach. The top management team can lead and champion the process with its vision and holistic outlook. The decision to outsource needs to be in alignment with evolving business strategy. For example, a high-technology firm such as Microsoft may decide to focus on its core competency in product design and outsource the production process to competent vendors. It may also decide to collaborate with its vendors in researching and developing new technologies.

Operational Assessment

Mapping and assessment of process capabilities helps the organization identify performance metrics to test the competitiveness of a vendor's proposal against internal and external best practices and then manage critical elements. While operational assessment can be a time-consuming process, it is a critical factor in the successful management of outsourcing.

Financial Assessment

This involves the assessment of fixed and variable costs, direct and indirect costs, and current and future costs. Outsourcing may help convert fixed costs into variable costs allowing the flexibility to adjust with fluctuating market conditions. For example, by outsourcing logistics and shipping, firms may reduce the fixed costs involved in the internal operations of the process. However, outsourcing involves certain hidden costs, such as managing the vendor contract and contingency planning as well as future costs, such as costs involved in terminating the contract if things go wrong. Financial assessment will determine whether the BPO contract is going to specify a fixed cost or a flexible fee-for-service or pay-as-you-use basis.

Risk Assessment

Outsourcing, by its very nature, is a risky and uncertain proposition. During negotiations, vendors may paint a rosy picture of their strategic capabilities, but only experience will tell whether they are true. If business conditions change drastically, the vendor contract may need to be thoroughly overhauled, which may adversely affect the pre contract

assessment of the benefits of outsourcing. There may also be serious intellectual property issues that may sour the relationship between the client and the vendor. If the vendor is based in another country, legal recourse to dispute resolution may be weak and ineffective.

Other risks include operational risks such as inadequately trained employees of the vendor, technological risks such as data privacy and theft; and financial risks such as financial viability of the vendor. Once the risks are assessed in terms of probability of their occurrence and the likely damage they may cause, the organization needs to decide how much risk it is willing to bear and whether it is worth it.

If the strategic assessment results in the green signal to go ahead with outsourcing, the next step is to conduct a thorough analysis of the needs of the functions and processes that are likely to be outsourced and an assessment of the vendor's track record against these needs.

Managing the Process

Needs Assessment

While strategic assessment refers to macro analysis of organizational needs, this step refers to the needs determination of specific functions and processes. This clearly sets the expectations of the client and the boundaries of the outsourcing project under consideration. It also involves studying the interdependencies between the processes. For example, if call center operations are being considered for outsourcing, one needs to map the entire CRM function.

It may be that servicing of existing customers is being outsourced because it involves standardized and well-tested transactional processes but not the management of new or potential customers which requires organization-specific higher level skills, competencies, and knowledge. The outsourced processes also need to have clearly defined key performance indicators (KPIs) against which the vendor's performance is to be evaluated. Further, needs analysis should consider industry benchmarks and best practices.

The needs analysis should result in a detailed statement of work (SOW), that is, the scope of the project, details of the work assignment, and roles and responsibilities of both the client and the vendor. The SOW is incorporated into request for proposals (RFP) specifying the sourcing requirements, the profile of an ideal vendor, and process and quality issues.

Vendor Assessment

Outsourcing results in blurring the boundaries of an organization and a new relationship. Selecting a vendor is a crucial step in minimizing risks. Outsourcing of mission-critical projects, particularly with an offshored vendor or multiple vendors, is even more complex and crucial. Vendors come in all shapes and sizes. Some are best of breed, in terms of domain knowledge and expertise, backed up by

world-class infrastructure and quality accreditation. Others are fly-by-night operators with questionable credentials.

A comprehensive and well-documented SOW can enhance the effectiveness of filtering and sifting vendors who respond to RFP. An examination of the vendor's current customers, business portfolio, and customer references is the crux of the evaluation process. The vendor ideally needs to have an established reputation of successfully handling the business functions and processes under consideration with similar organizations and industry. Also, the vendor's customers need to vouch for the vendor's commitment to quality, work ethic, timeliness, and cost effectiveness. The vendor needs to strictly adhere to statutory regulations such as data privacy and labor laws. A good track record in the protection of intellectual property and disaster management procedures is also essential.

Negotiation and Contract Management

Good negotiation leads to a well-documented contract, normally referred to as a service level agreement (SLA). To negotiate well, one needs to have a thorough understanding of one's own requirements. The negotiating team should be competent enough to understand the dynamics of the negotiation process to ensure that all the key requirements, measurement mechanisms, and contingency provisions are unambiguously spelled out in the contract in a time-bound fashion. An appropriate due diligence process needs to be performed before signing the contract to make sure that the vendor has the financial, intellectual, and infrastructural capability and competence to honor the deal. Documentation of minutes of negotiation meetings and undertakings is very crucial.

Finally, it needs to be remembered that the contract is just one aspect of the outsourcing relationship and what is equally important is trust, honesty, and mutual respect throughout the life of the contract. No contract is perfect and both parties need to be pragmatic and flexible to account for changing business conditions.

Project and Relationship Management

Once the project is underway, the vendor will start taking control of the outsourced functions and processes in a phased and timely manner. During the transition process, the employees of the client need to train and transfer the knowledge to the vendor's employees by offering the necessary cooperation and support. This process may become political and hostile if the client's employees are apprehensive of losing their jobs, power, and control after the transition; therefore, the management team needs to handle this issue sensitively, honestly and transparently, failing which the transition may stall for no fault of the vendor. Some amount of chaos, confusion, and frustration is common during this stage, but if both parties are sincere in their efforts and intention, things will become normal over time.

The project will proceed smoothly when everybody involved is clear about his or her roles and responsibilities

and communicates regularly with each other. When virtual, international teams are involved in the project, management of diversity, in terms of cross-cultural awareness and empathy, becomes crucial. Differences in organizational cultures also need to be handled carefully. Regular and comprehensive documentation of project team deliberations is very helpful for the smooth functioning and achievement of the goals. When things go wrong, contingency plans need to be in place to ensure continuity and disaster recovery. Project managers from both sides play a crucial role in leading by example in the resolution of disputes, be it time or budget management or interpersonal differences. They also need to ensure the availability of resources, including time, money, and personnel necessary to undertake the project. Regular project reviews are necessary to take corrective action during the life of the project.

No relationship is rock solid. Differences are bound to occur and things are bound to go wrong, sometimes seriously. For example, terrorism is a global threat which can inflict fatal damage to people and infrastructure. A bomb explosion in India may affect banking and finance operations in the United States. While neither the client nor the vendor can envisage all potential problems, if the relationship is strong and enduring, the future of the project is secure. With changing business conditions and shifting regulatory requirements, the contract may need to be renegotiated, which is quite common. Sometimes, the situation may deteriorate to an extent where separation may become inevitable in which case a viable exit strategy needs to be part of any sound outsourcing contract.

FUTURE DIRECTIONS OF BPO

According to Gartner, organizations increasingly prefer single suppliers that deliver integrated solutions rather than piecemeal suppliers. Clients also prefer to deepen their relationship with vendors through an incremental approach rather than awarding big contracts at the initial stage of a new relationship. In keeping with these trends, BPO vendors are consolidating their operations through mergers and acquisitions. This means that exit strategy becomes even more important in contract terms and conditions. Further, Internet- and Web-enabled technologies will play a bigger role in BPO operations.

With explosive growth in off-shoring of BPO to countries such as India, new problems are emerging. Even though India produces millions of new graduates every year, many of them do not have the right skills, and those who have them change jobs too frequently pushing employee turnover to unacceptably high levels. Their wages are also going up which may in the long run upset the cost advantages. With the major offshore BPO providers increasingly setting up operations onshore and nearshore, outsourcing is becoming more and more global. This may blunt the criticism often leveled against outsourcing that it leads to job losses in developed countries.

To BPO or Not to BPO?

While there is overwhelming evidence of widespread outsourcing across a wide range of industries, there is also a considerable rate of failure with BPO projects. One of the well-known cases of failure is the Australian federal government's IT infrastructure outsourcing in late 1990s which failed badly to realize the cost savings envisaged. A review suggested that the government was overly optimistic of the benefits of outsourcing and significantly downplayed the associated risks of outsourcing large-scale projects. In many cases, clients have pulled back from outsourcing and brought the operations back in house, called insourcing or back-sourcing. There is also considerable consumer resentment and employee trade union opposition to outsourcing which cannot be brushed aside by corporations with corporate social responsibility.

That said, outsourcing is a logical extension of division of labor and specialization, the key scientific principles of management that shaped the 20th century economy. Globalization and technological breakthroughs have fundamentally changed the way we work, and outsourcing is a key business strategy that harnesses the potential of the new business environment. Outsourcing and off-shoring are the key elements of the third-generation business model, after global exports and production. Businesses that provide BPO services have become a new phenomenon and can offer strategic and competitive advantages apart from cost savings. This is reflected in the fact that BPO has grown well beyond low level, transactional services to knowledge-intensive, core transformational services that encompass a wide range of professional occupations such as engineering, medical, legal, and accounting.

Today, any organization, be it private or public, large or small, that strives to remain competitive and offer better services, needs to take a serious look at outsourcing. BPO is here to stay and grow. The question that every organization needs to ask is, "Is it relevant and beneficial for our customers and other stakeholders; if so, why and how?"

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PLACE AND SPACE STRATEGIES FOR 21ST-CENTURY ORGANIZATIONS

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For many modern organizations, their work processes are increasingly concerned with the sharing and creation of knowledge rather than the production and distribution of physical goods. This chapter is concerned with excellence in the design of physical spaces for such knowledge work. It draws on good practices from around the world.

It needs to be emphasized that the concern here is not primarily with architectural design, although architecture and architects clearly perform a crucial role in shaping the effectiveness or otherwise of modern office space. Concern is much more about ensuring that the design of every aspect of the work space, of which the physical building is one important dimension, contributes strongly to successful work processes going on within that building.

At the start of the 20th century, one single new office building provided an inspiration for much of new design thinking about offices—the Larkin Building in Buffalo, New York. Designed by Frank Lloyd Wright, it influenced countless others for decades. Yet the building itself no longer exists. It was gradually run down, the company who owned it went through hard times, and after a period where it was used for bring-and-buy sales, it was eventually demolished only half of a century after being built. This demolition was a tragic loss for the architectural historian and for those of us concerned with preserving the symbols of the modern era. But it also symbolized the reality that the needs of users of office space had moved on, and Frank Lloyd Wright himself was unsentimental about the fate of the building given its decline and fall from the originally designed purpose.

For many years, particularly since the end of the World War II, there has been a constant stream of predictions about what the office of the 21st century would look like. In his 1936 film *Modern Times*, Charlie Chaplain envisaged a steeper form of hierarchy and control, reinforced by obtrusive control methods, for example, video surveillance. In 1948, George Orwell similarly envisaged an environment of extreme control in *1984*. Many of these predictions have come true. There is routine detailed monitoring of call center workers, for example, to a degree undreamed of in 1948.

The term *office* is actually a rather loose one. It has three somewhat distinct meanings:

1. A place of largely solitary work, similar to a study, often a room within a domestic house
2. A location for clerical workers ancillary to a production or operational function (e.g., back-office in an investment bank)
3. In a services company, the main place of business itself

Since the 1980s a fourth meaning has emerged: a virtual office—although the workers are not physically colocated, it provides the equivalent of a physical office through use of outsourced physical facilities and intensive application of electronic media.

SPACE DESIGN

The design of office buildings to win architectural competitions can be done only through successful architects

and architecture. It is top-down design. But the design of effective office space to support successful knowledge work can be achieved only through the actions of those who work within the building—it is much more about bottom-up design including the accumulation of many small actions and behaviors by the knowledge workers themselves.

Successful knowledge work can take place without any building at all, as when poets, writers, and composers are inspired by a walk along a lake, up a mountain or through countryside. Successful knowledge work spaces can be carved out of the most apparently unpromising physical structures. In one well-known case study, the U.K. Post Office converted a condemned temporary building into one of the most exciting innovation centers in the country. Many inventions and artistic inspirations have taken place in garden sheds.

The topic of office of the 21st century affects a wide variety of those involved in design:

- Information technology
- Property development
- Facilities management
- Knowledge management
- Virtual work
- Architecture
- Users of the office

So when it comes to the question of design of space for knowledge work, this is a topic not simply of concern to the professional designer, to the property developer or the facilities manager. It is a topic of direct concern to all those of us who do or may work within those spaces. All workers help shape the effective knowledge work space by their daily actions, and all can contribute to designing even more effective spaces for the 21st century.

It should be noted that this newly emerging concern with designing physical space for effective knowledge work is a matter of international concern. There are studies taking place all over the world into this, not least in the United States, the United Kingdom, Germany, France, Italy, and Sweden. This entry draws on this leading-edge international good practice.

GOOD DESIGN

Some people commissioning new spaces for office work are anxious to spend money on beautiful objects, furniture, and equipment. But design of effective spaces for knowledge work is rarely concerned with who makes the physical objects that appear within the building or with how expensive they are. Effective knowledge spaces have to work for the particular people who are employed there. Much can be done with imaginative use of day-to-day objects as opposed to those from famous designers.

Good design is concerned with the question of being fit for purpose. One of the reasons why there is dissatisfac-

tion of employees with their work spaces can be that too much attention and money has been devoted to the design of the physical building, and too little attention and money has gone into the fitting out and what might be called the exploitation of the physical space.

KNOWLEDGE WORK

When Frank Lloyd Wright was putting up the Larkin Building a century ago, the work in it was primarily concerned with processing mail-order correspondence. This type of work can be called *information work*. Millions of people have information work at the core of their jobs, and almost all workers need to carry out information tasks such as dealing with e-mail as one part of their jobs. But the focus here is on the parallel type of work: knowledge work. This is where much of the competitive advantage of nations will arise in the 21st century, from its ability in particular to create and share knowledge.

Just as all workers carry out information work for at least part of the day, so too do all workers carry out knowledge work for at least part of the day. One of the major limitations of the decreasingly used terms *blue-collar work* and *white-collar work* was the very idea that blue-collar workers used their physical skills and capabilities, while white-collar workers by contrast used their mental skills. Today every single worker would be recognized as being important sources of knowledge and with the potential for creativity. In one famous example, the service engineers of a photocopier company had far more knowledge about the company's products and customers than did the engineers and the sales force respectively.

So it is possible to talk about knowledge work and information work but be reluctant to talk about information workers and knowledge workers. Most workers carry out a range of types of information and knowledge work, though of course some are much more heavily engaged at one or other end of the spectrum.

DIVERSITY

Frank Lloyd Wright created the Larkin Building at the very time when scientific management was becoming popular in the United States. This was concerned with detailed measurement of work activities and with devising the "one right way" of work organization to carry out that work most efficiently. Wright did consciously or subconsciously reinforce standardized approaches to work through his design of desks and work spaces. Scientific management may even today be sometimes an appropriate approach for completely routinized work. But today this mechanistic approach to work design has generally been rejected.

It is particularly inappropriate for work that is primarily knowledge based. One very clear message, which comes through both from case studies and from the wider research

carried out into knowledge work, is that workers do have a wide range of approaches to such work. There is diversity between individuals—one prefers quiet and another prefers noise. There is even diversity for any individual—he or she may prefer a noisy environment for one type of work and a quiet environment for another type of work.

Any work environment that is completely standardized runs the risk of being inappropriate for some workers all of the time and for all of the workers some of the time.

FLEXIBILITY

The nature of work changes over time, and well-designed work spaces may have ensured flexibility at three levels:

1. Ability to reconfigure a space very fast for short-term purposes
2. Ability to change the fundamental layout in the medium term
3. Ability to change the use of the whole building in the long term

SPECIALIST SPACE AND FACILITIES

There are inevitable economic and practical pressures on both property developers and the corporate occupiers of major office spaces to develop generic standardized office shells that permit internal flexibility. One problem with this is that the practicalities of the generic can be obstacles to the achievement of the specific. It is particularly striking at how meeting rooms, for example, appear to be almost an afterthought in the design of offices, when in reality enormous amounts of time and energy are spent in those rooms. Similar considerations apply to library or resource areas and in some organizations to storage.

UNLOCKING KNOWLEDGE

The most valuable type of knowledge is that which is locked up in people's brains—tacit knowledge. The workplace or office should now become a vital ingredient, in the processing not so much of low-level information but of unlocking and sharing that tacit knowledge. This has been understood within the design industry itself, often rather theatrically at the moment through pinball machines and wacky furniture. But the underlying message that many of the eccentric environments have absolutely understood is the need for diversity of spaces for knowledge work.

Group creativity needs its own spaces rather than taking over the whole space. These spaces do not so much need to be comfortable, but they need to be fit for purpose. One of the most impressive innovation centers in the United Kingdom is that created by Royal Mail at their management

development center in Rugby. This is aimed specifically at group work. The overall environment, somewhat along the lines of a museum or even an art gallery, is aimed at unfreezing the conventional mind-sets that visitors bring with them—it offers challenging visions of the near future. There are then a series of specially designed meeting spaces. All of them have wall-to-ceiling whiteboards. Two have full laptop support including brainstorming software that is geared to anonymous and instant sharing of ideas and preferences within a group. The meeting spaces are oval in shape to symbolize the attack on straight-line thinking. They have impressively wide, curved doors that can be closed to create focus and intimacy or opened so that the activities can become part of the wider environment.

Some researchers have advocated the primary school as one of the key metaphors for spaces for management learning in the 20th century. One of the Royal Mail meeting spaces is set up exactly like a primary school classroom and is used particularly when visitors first arrive as another vital part of the unfreezing process. It is a far cry from the typical bland and uninspiring corporate meeting room, which almost seems to be deliberately geared to ritualistic meetings dominated by one-way presentations.

CONTROVERSIES

There is not a universal consensus over the meaning of good design in this area. There are several controversial areas:

1. Do 21st-century organizations need cellular offices?
2. Should they have a “clear desk” policy?
3. Should they altogether banish smokers from the office precinct?

There are certainly no absolutes in this area of work space design—what is right for a health center may be wrong for an advertising agency and vice versa, and what is right for one advertising agency may be wholly inappropriate for another. It is important that the work space be designed to support the culture that the organization seeks to achieve, particularly at times of organizational and cultural change.

It is important to be extremely cautious about fashions in workplace design. There is little doubt, for example, that some types of knowledge work are performed much better in enclosed offices than in open-plan space. So a strong commitment to removing enclosed office space can be counterproductive. One of the benefits of diversity is that it can often contribute to flexibility.

The human and political factor is also close to the surface in the real world, so it is common to find those who neither need nor can justify an enclosed office, demanding one of grounds of status, for example.

According to environmental psychologist Becker (2007) the control of information is the essence of privacy is the

control of information flow. In their seminal review, Stone and Luchetti (1985) called privacy versus participation and independence versus inclusion office design quagmires and argued that, while compromise cannot resolve the tensions between these needs, multiple activity settings can.

Instead of an office design that assigns a workplace to one person, Stone and Luchetti (1985) proposed a workplace that offers a variety of activity settings—each of which supports a limited range of activities rather than trying to meet all of a person’s privacy needs. These specialized settings are conceived as spanning the variety of at times contradictory office worker requirements. For example, some tasks people require inclusion and participation while others necessitate quiet and solitude.

Activity settings might include private offices with doors to serve as “home bases,” bullpen areas with rearrangeable tables for shared work, and quiet spaces or library areas where people can reserve tables to spread out on, lounge chairs for reading, or secluded corners for concentrated thinking.

Space for “courts” or shared-activity areas could be found by limiting the “caves” or “home bases” to very small areas with just enough space to write, make phone calls, and store personal files. Creating the full range of settings would require various combinations of permanent and movable walls and freestanding and systems furniture arranged to form private offices, open-plan environments, and bullpens.

STIMULUS TO CREATIVITY

A creative environment, whether outdoors or indoors, will tend to contain a variety of stimuli to thought, whether at a personal level, or to stimulate interaction between a group. It is also important to design workplaces where the stimulus is totally absent in order to encourage convergent thinking through focus and concentration.

THE WORK SPACE IS THREE DIMENSIONAL

It is striking to observe the increasing importance being placed on walls as a fundamental asset in the modern office. In Orange’s London Imaginarium, almost every piece of wall space was covered with whiteboards, TV monitors, and even a pillar that visitors are encouraged to sign. At the Royal Mail Innovation Lab, the whole of some meeting room walls are covered in whiteboard material. An unexpected role model for wall space is the modern primary school—packed with information and examples of student work.

PAPERLESS OFFICE

The dream of the paperless office has been fuelled by at least two different perspectives. The first is a possibly tran-

sitional phase whereby existing paper-based materials are scanned into an electronic format. This format may be

1. wholly image based, as in a photocopy whereby the viewer sees a facsimile of the page on screen; or
2. wholly text based, where the image has been translated via optical character recognition into a text document.

A combination of the two is also possible, which is the area of document management and a whole variety of software tools are available to manage the scanned databases.

The second perspective of the paperless office is very different. In this perspective, paper documents are never produced in the first place, whether external or internal. Under this perspective, the office world is end-to-end, fully digital. Small amounts of scanning may still be needed for a handful of external sources, but the emphasis here is wholesale redesign of business processes to take advantage of the digital formats. A very clear example is in collaborative engineering such as for the Boeing 777 design whereby work is organized around shared design databases and shared design tools.

DRIVERS OF OFFICE DESIGN

The offices of the first half of the 20th century were dominated by cellular design. Many office workers and particularly managers had individual offices. With the postwar boom in high-rise offices, open plan became dominant. Outside metropolitan centers, most offices have reverted to low rise, but the open-plan pattern still dominates, albeit that there are now much more better designed public areas, cafeterias, atriums, and so forth. The most significant changes in the modern office are in the supporting and largely invisible technological infrastructure. There will be much more scientific control of temperature and humidity than 50 years ago. Security devices tend to be more visible and more effective. There are massive demands for telephone, computer, and video networking infrastructures. One of Professor Parkinson’s laws was to distrust the prestigious head office, and although there remain many ostentatious head offices, there are fortunately today plenty of examples of a more muted approach.

Improvements in physical design can undoubtedly improve performance where other elements of the sociotechnical system are in balance. But it is noteworthy how in the United Kingdom and other countries, office workers feel subject to greater stress than ever before, and managers in particular are actually working longer hours than 20 years ago. The redesign of the physical office, therefore, has to be considered against the actual problems faced. If stress due to the pace of work is a serious problem, and information overload is increasingly prevalent, serious consideration needs to be given to redesigning the office to address these contemporary problems. Too often both the specifiers and

designers of modern offices appear to be addressing variations on yesterday's themes such as the need for flexibility in internal layout when there have already been very significant changes in structural and personal flexibility, perhaps to an extent not even envisaged in the more hierarchical 1950s and 1960s.

A senior executive in an ultramodern prestige office was quoted as saying that it was impossible to do knowledge work in the office, so it has to be done at home. Cases such as this should provoke some revisiting of the assumptions behind conventional wisdoms in office design.

There are undoubtedly clear examples where a revised office layout can brilliantly complement progressive management thinking—for example, the abolition of cellular offices right up to the very top level at Oticon in Copenhagen and at Thomas Miller in the city of London. In these cases, the office moves were the final part of a major systemic change—flattened organizations.

THE OFFICE WITHIN A SYSTEM

The office can be seen as a physical entity (a building), as part of the organizational structure, as an information processing environment or as a congregation of people. It is, ultimately, a system and in fact a complex system. This makes it appropriate to use a systems approach in analyzing the office of particular relevance in the sociotechnical systems approach. This envisages business systems as having four main dimensions, summarized by Emery and Trist (1960) as task, technology, structure, and people. These dimensions constantly interact with one another. One can rarely be changed without altering the other. For the office of the future, the following need to be considered:

1. *Task.* In particular key business drivers—flexibility, speed of response, management of expertise and knowledge, increasing creativity, and virtuality
2. *Technology.* The physical building, the information technology, and the internal furnishings and fittings
3. *Structure.* The formal and informal organizational structure
4. *People.* Their individual and collective values, skills, assumptions, and so forth

In analyzing the nonachievement of some of the dreams of the office of the future, a great deal of the blame comes down to naive beliefs that there actually is a direct link between changes in technology and the achievement of task goals. A new office format is in itself expected to improve productivity and creativity. But in practice, changes in only the technology are unlikely to have any direct impact on task performance. This is because if organizational structure and people aspects remain unchanged, the main causes of

improvement—new business processes—are unlikely to be implemented.

Knowledge of technology throughout history suggests that simply because an improvement is theoretically possible via technology does not mean that it will happen effectively or at all. This is very marked indeed in the area of the office.

THE FUTURE

It can be established that the physical office of today, despite the imaginative efforts of modern architects, is generally based on a model of work that although postbureaucratic, is essentially preoffice automation. The physical office of today technically integrates leading-edge communications and data storage technologies. But it has almost completely failed to address the growing bundle of problems that are arising from flattened organizations, greater number of mobile workers, and the fast growing nightmares of information overload and time-based stress.

There are at least seven core functions of the modern office:

1. formal meeting place with colleagues and business associates
2. base for mobile and remote workers
3. base for static workers
4. base for information intensive work processes
5. base for knowledge intensive work process
6. creating opportunities for serendipitous human-to-human contact, and hence stimulating creativity and innovation
7. a symbol of the organization to both external and internal worlds

The classic rationale for having offices at all relate to (1), (3), (4), and (7). It can be observed that considerable effort has been taken in the most progressive offices to take on board (2) and (6). However, many offices, even ultramodern ones, have still not fully grasped all six of these. Concerns particularly relate to the lack of awareness of (5)—knowledge intensive tasks—and of the rapidly changing set of problems surrounding (4)—information intensive tasks.

The most progressive design of the physical office is literally only a shell. The simple sociotechnical systems model that this physical and technological shell is entwined with tasks that are often rapidly changing; with organizational structures, formal and informal, that are increasingly fluid and involve many external partners; and with people, whose needs are also changing and extending, and many of whom are increasingly stressed as a result of their office work.

The 1960s office theory was to create flexibility through physical layout, and this remains a strong influence. The

very concept of flexibility has greatly extended since then to include remote working and external partners, but office design has often not kept pace with this. Surprisingly little attention has been given to the fundamental and worsening problem of human stress in the modern office. In particular, it can be doubted that much modern office design is reducing stress—a suspicion in fact is that such stress may well be made worse, even by designs that appear admirable in outward form and intention.

The very idea of the physical office is subject to almost continual critique by futurists. Many of these are writers and consultants whose personal style is often highly mobile and highly individualistic. So it is perhaps not surprising that they fail to engage with the needs of typical businesses and the average information/knowledge worker. There remains a strong humanistic need for face-to-face contact on both a structured and unstructured basis. The physical office can score well on both these counts. To adapt Mark Twain, reports of the death of the physical office are greatly exaggerated. It can be expected to see much more virtual and remote work over the next 20 years. This may make central offices smaller. It will also reinforce the need for some form of central physical offices, but the configuration of these offices may need to have some very different emphases in this more virtual and fluid world of the 21st century.

ROLE MODEL OF GREAT DESIGN OF WORK SPACE

Although there appear to be new trends in working patterns and in their implications for office work, some research has looked at the past as well as the present. In a context where so much corporate office space is unfit for the purpose of knowledge work, historic examples can still be used as excellent role models. These spaces understood the need for diversity to take account of the many different types of knowledge work. The best role model of all is very far from a glitzy big city office. It is in the medieval monastery. The monastic orders learned over long periods how monks worked most effectively as knowledge workers and pretty much perfected the design of monasteries to support this.

They may not have had floor-to-ceiling whiteboards or pinball machines, but the monastery had superb and surprisingly democratic meeting facilities in their chapter houses. They had designated areas for reading, writing, listening, and private reflection. They had open air in the countryside for one particular type of reflection. And they had their own particular invention—the all weather cloister. Not only did this allow for both semipublic reflection and study (in the often now disappeared study carrels). It was also a place for conversation and accidental meeting: both still vital ingredients today in the sharing of knowledge.

Unfortunately, the monastic lifestyle has particular implications that do not always chime with 21st-century mind-sets. But it is a powerful metaphor for the office of

the 21st century. Knowledge work is human work and is best carried out in humane surroundings that enable diversity and in particular both private reflection and intensive group work.

THIRD SPACES

This type of space was first articulated by sociologist Oldenburg (1989). He suggested that for a modern complex society the “third space” is vital, in between the first space of home and the second space of work. The subtitle—*Cafes, Coffee Shops, Community Centers, Beauty Parlors, General Stores, Bars, Hangouts, and How They Get You Through the Day*—of his book is a clear indicator of what he means by a third space. In practice, this idea has been most strongly drawn upon for rethinking the workplace, so it has turned out to be as important for business as much as for social purposes.

One building that has been conceived around third space and knowledge management is the British Airways Headquarters, Waterside. Almost everywhere has an informal corner for the accidental or even deliberate informal meeting.

One of the best known modern offices is that of Oticon, the Copenhagen-based hearing aid manufacturer. Its headquarters, located in a refurbished Tuborg brewery building, welcomes employees with a marble pillar engraved with the company slogan “Think the Unthinkable.” The Oticon office is a monument to creativity, as well as to team working and flexibility. Every detail has been designed to further these aims. There are no desks, just standardized PCs on tables. Once again, staff have caddies but tend to work in project groups for several months at a time, not hotdesking. Immense care has gone into designing the coffee areas to encourage conversation—even the staircases are extrawide to encourage people to stop and chat there. Despite the ruthless elimination of paper and total electronic storage of documents, there is also a fundamental belief in talking to people—e-mail is discouraged, for example, in favor of oral discussion.

In the United States, advertising agency Chiat Day created a famous experiment in Venice, California with an extremely technology driven approach to the Creative Office. However, in 1998, Chiat Day announced that they were, in the light of experience, reining back on their extreme design.

COMPANIES WITHOUT OFFICES?

There are some excellent examples of companies that now exist without any of their own central offices at all. Catalyst 400 is a U.K. reseller of IBM midrange computers. When it was set up in the early 1990s, a conscious decision was made to start without an office. This helped significantly

reduce overheads. It gave greater flexibility. It has also proved to be a symbol and a marketing tool in itself.

This is only possible through use of exceptionally well thought through modern technology. It is perhaps not an accident that Catalyst uses the services of an innovative serviced office provider, the Virtual Office Company. Founder Richard Nissen has been driven by a vision of how his own physical services based in an extremely tangible location—211 Piccadilly—can support truly remote, mobile, and flexible working. Nissen's company not only enables firms like Catalyst to appear to have their own switchboard and secretarial services but also has sophisticated methods of redirecting faxes, voice mails, and so forth to their intended recipients.

Catalyst, as with many sales organizations, wants its sales force to spend time mostly with customers and these staff would in any case be very mobile. When there is a need for internal meetings, these are held at centrally located rented hotel meeting rooms. Where a client wants to visit, the meeting is held at an IBM office. The rest of the time staff will work from home or in their cars.

What is noticeable here is that although Catalyst definitely does not have offices of its own, it remains dependent on other people having offices—its service provider, its customers, its hotels, its main supplier, and in particular, its staff's home offices. Even the company without offices of its own still depends on offices—it is just that these are of a much greater variety than under the conventional head office model.

THE DESIGN PROCESS

In reviewing the design process, several points need to be emphasized. First, there needs to be concern with how spaces for knowledge work are designed rather than with the physical architecture of the building itself. It is naturally also important to be concerned with how effectively those spaces support knowledge work including the design of the interior layout, furniture, and work processes; again, issues that go far beyond the formal building architecture.

There are many examples of modern offices that are striking, beautiful buildings. This visual aspect of design may well contribute to the success of the work that goes on inside those spaces, but this does not emphasize the need for world-class architecture. Excellence in design of work spaces can take place even in the most unpromising physical environments. The first version of the Royal Mail's Innovation Laboratory was constructed inside a condemned portable building. The HHCL advertising agency offices are inside an unprepossessing, prewar London office building and Circus Space learning center is in a converted Victorian electricity works.

What clearly comes through is that the most effective buildings for knowledge work do not end that way by accident. They tend to be very consciously designed, and the

most crucial influence on that design is not, perhaps surprisingly, the architect. The key influence comes from the client commissioning the work, who turns out to have a concept of some special factor that is needed in the work space in order to unlock the creation and sharing of knowledge. Of course, architects place an equally vital role in converting that concept into viable physical space, but in each case, one or more senior managers provided the leadership from the client side necessary to unlock the design puzzle of creating space for effective knowledge work.

The spaces studied in literature of successful offices all arose out of a particular context—of business drivers, of current building assets, and of financial and human resources. Their excellence in terms of design relates to meeting the needs of an organization for knowledge work within such a particular context.

Writings on great architecture may well make little or no reference as to whether the building was actually fit for purpose. One famous building that has won architectural awards and acclaim is said by a senior executive to have never really been suitable for the knowledge work that was supposed to go on inside it. The executive argued that this was because the architect took almost no interest in the underlying work processes, and he and the sponsors were more concerned with using the building as a vehicle for making a statement.

FIT FOR PURPOSE

When writing about great design, it is important to be crucially concerned with fitness for purpose. But it does not mean that the actual physical designs could or should be replicated in other organizations. Many of the individual components in excellent work spaces can and possibly should be replicated, but the important thing is not the visual look of the work space, but rather the design process that ensures that what is implemented actually meets the needs of that particular context.

It may be that a successful design for a particular organization does have some longevity, but this is more a feature of how it continues to meet the changing context rather than because it is in some permanent sense a good design.

A key issue in being fit for purpose is that the design is achievable within the finances available. The first version of the Royal Mail Innovation Lab was a pilot project on very limited resources. The Bromley-by-Bow center is a public/voluntary project where resources were never easy to find, and Circus Space was for some time an idea in search of resources. So what is impressive about such examples and what makes them good design is precisely their ability to achieve a great deal within very finite resources. It can sometimes be queried, when looking at extremely expensive work spaces constructed by large corporations, whether there was in fact too much money spent on the structure and expensive internal ornament (perhaps as a

symbol of success) when greater value and more effective design could have been achieved internally through more thoughtful ways of leveraging the knowledge of the workforce inside those symbols.

The lessons of a good design process are much easier and, indeed, necessary to replicate. For this reason, it is important to pay particular attention to the design process. Some factors constantly recur. The well-informed client, already mentioned, is particularly crucial. The willingness constantly to question underlying assumptions throughout the design process is also important, and in this regard, the role of consultation is vital. A signature architect may well be completely uninterested in the views of the people who are going to have to work inside the building. A designer of work spaces cannot afford to be so aloof. This does not mean that the design process is simply one large focus group because there are often key trade-offs to be made due to resource constraints, and particularly where part of the aim of a new work space is as one part of a change in organizational culture. But even in the latter case, it still makes sense to consult with those who are going to work in the work space, not least because they know far more about how knowledge is created and shared in their organization than any external designer.

Consultation means allowing the central client and designer assumptions to be challenged in the light of actual experiences on the ground. It also enables some of the more difficult aspects of change management to be articulated from the client point of view. If an organization has been, for example, insufficiently creative, it is not enough to decide from on high to move to new ways of working and then suddenly impose them through the vehicle of a new building. This tactic is particularly unlikely to work in areas where most knowledge is directly created through the employees. The move to the new building can be only one part of a wider program of cultural change, and the consultation process needs to involve management being willing to address their concerns and objectives as managers directly with staff.

From examining numerous case studies of the design of work spaces for knowledge work, it is clear that all too often the distinct needs of knowledge work are not actually taken into account at all in the planning of work space. It is possible to caricature a dysfunctional work space design process as follows:

1. An organization outgrows its existing work space or is forced to move for some other reason.
2. The senior management decides on a new or refurbished building and prepares a business plan for the move including statistics on likely future office space requirements and on other types of space need in the building. There is no significant staff input into the business plan.
3. They hire an architect to develop the plans, who eventually produces a master plan for the building. This striking

building exactly meets the quantitative requirements as laid down in the business plan. It is a little more expensive than the business plan but clearly prestigious. The master plan is approved with no detailed consultation with staff.

4. Construction is nearing completion. A space planning exercise is carried out to allocate departments and individuals to specific spaces. A furniture procurement exercise is carried out. There is virtually no consultation.
5. Budget overruns on the building mean that key aspects of internal fitting out are eliminated, creating a more Spartan internal work space than ever envisaged with significant defects, for example, in meeting spaces.
6. On moving into the new building, knowledge workers discover that they are less efficient and less effective due to a continuous stream of arbitrary decisions made and imposed on them.

This nightmare caricature, by no means, is unusual. In the case of public buildings, the lack of consultation may well extend to the public users of the building as well. Fortunately, such a pathological approach to work space design is not inevitable.

BUILDINGS AND IT AS LINKED SYSTEMS: IMPLICATIONS FOR ROLES

When the first computer systems were introduced, they were very accurately described as “data processing systems.” But even these early systems had impacts—often dramatic—on the workforce, on the business structure and processes, and on the physical configuration of the office. Too little attention has been paid to the interplay between evolving computer systems and the physical office. Clearly, there are direct, legally constrained impacts relating to detailed ergonomics of desks, chairs, lighting, and so on. But at the present time, there are even more profound impacts caused by the impact of technologies that uproot “the office,” for example, via teleworking, or which like electronic meeting systems make quite different demands on the physical offices that still remain.

It is not so much that IT is directly leading to reconfiguration of the physical office. The continual changes in organizational structures and business processes cause the reconfiguration. This does lead on to a need to consider who then designs the physical office. Where IT was a low-level operational tool such as with telephones and typewriters, offices simply had to make space for them. IT systems and physical systems did not have particularly significant interactions. As IT, albeit indirectly, is leading to potentially radical changes in the nature of physical offices, it may no longer be possible to rely wholly on the physical architect to design the physical office, simply feeding in inputs and

specifications from the information or knowledge systems architect. It is now possible to conceive of a situation where a business that is reengineering around (a) new organizational structures and networks, (b) revised business processes, and (c) new climate and culture should seriously consider taking on workplace “systems designers” who take responsibility for all of the key levels of change including the design of the physical office. In leading examples where office change and strategic change were closely linked (e.g., Oticon), the specification of the new offices took place under the close attention of the CEO. At Wellington Fund Managers in Boston, one of the senior partners actually had been an architect and this unquestionably enabled some radical physical designs to be implemented.

However, we cannot always assume that the CEO or top team will personally have the insights or design flair that were clearly present at Oticon. For these organizations, it is possible to see much more holistic “business architects” who would include building architects in their team but where the building architect would be one of several parallel system component designers.

To summarize, the office building is no longer essential to a business for purposes of efficiency in low-level data and information processing. Its role is shifting to knowledge processing and to creating a physical environment that ensures effectiveness in that knowledge processing.

SUMMARY

Each decade since World War II has involved a technology-driven dream about the office of the 21st century. Not one of these dreams has come fully true. Although each dream exists fully in a few organizations, what is most remarkable is just how resilient white-collar workers are to change. Even the heralded growth of the PC and of e-mail has often only automated what was manually or semimanually done before. E-mail and the World Wide Web potentially offer radical new models, but organizations are currently in an intermediate phase where problems with them could actually be outweighing benefits in many organizations.

There will always be pioneering companies actively seeking to reengineer the office. But the vast majority will move perhaps too cautiously and too incrementally. A common vision of the office of the 21st century would not involve use of the technology for the sake of it, but rather a focus on what are the information processing tasks most critical to

1. operations processing—information work, and
2. creation and accelerated sharing of knowledge.

It is necessary to develop packages of solutions including not just IT but also working practices, climate and

culture, skills development, and learning methods. There is no single silver bullet to make the office of the 21st century significantly more efficient and effective. But there are undoubtedly packages of poor practice as well as the proposed packages of solutions.

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ETHICAL MANUFACTURING

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There are two big issues in the world: saving the planet, which includes the debate on climate change, and poverty, which includes the way we treat each other. Since the publication of Rachel Carson's book *Silent Spring* in 1962, issues relating to how we use natural resources and how we abuse the planet have been rising to the top of the business agenda. Industry has developed on the premises that resources were unlimited. This was true enough at the beginning of the Industrial Revolution. With the expansion of the Asian economies, especially India and China, and a world population estimated to reach 10 billion by 2050, it is impossible to ignore the consequences of industrial development. It is now necessary to focus not on *human* productivity but on *resource* productivity.

Across the globe, consumers are now insisting that companies address these issues and make ethics and social responsibility mainstream. That means that all employees from the Board to the shop floor must recognize the part that they must play in achieving the changes such concepts demand. *Ethical manufacturing* is a new, broad umbrella term coined to bring together a wide range of concepts and to consider their application to operations management. This term includes consideration of sustainability, pollution issues, quality management, the search for renewables, responses to climate change, development of new materials, labor issues, as well as all of the traditional aspects of production management.

There is always change in operations management: pressure from rising customer expectations, the need to adapt to new technologies, constant innovation, and new legislation concerning treatment of workers have been key issues. In addition to these drivers, anxiety about the environment, sustainability, and resource management have all become

serious concerns. The problems are not new. The difference is that the "greening" of manufacturing has become mainstream. Discussion of ethics, social responsibility, and sustainability is no mere management fashion.

If you look at the indexes of standard operations management textbooks, you will see that the number of pages devoted to ethical or socially responsible issues is very small indeed. In fact, rather than including them in the main text, the issues may just be relegated to a final chapter. The key challenges to operations managers can be summarized as globalization, social responsibility, environmental responsibility, and new technological developments. This chapter illustrates the interdependencies between these topics and shows why it is necessary to study ethical manufacturing as well as operations management. Synthesis is essential.

The history of the Ford Motor Company illustrates how companies have changed their attitudes and how they are embracing new priorities. Dowie (1977) reported that, although the Pinto was considered a firetrap, the Ford Motor Company paid millions in compensation rather than install a safety improvement that cost just \$11. In 1977, Ford "finally incorporated a few minor alterations necessary to meet that federal standard Ford managed to hold off for eight years" (p. 47). Iacocca, then president of Ford, was quoted as saying, "Safety doesn't sell" (p. 49).

Look on the current Ford Web site; there are numerous pages expressing concern not just for safety but also for green materials, carbon offsets, hybrid cars, eco-driving, and many others. It is especially interesting to note that Henry Ford used a number of processes that would now be considered ethical or eco-friendly including parts based on agricultural products. The reasons were different, but this reminds us that an interest in renewables and recycling has a long history.

Blood Diamond, a film released in 2007, exposed the way in which diamonds illegally mined in Africa fuelled the bitter wars on that continent. Because of campaigns by organizations such as Amnesty International, fewer “conflict diamonds” are now found in high street stores. The Kimberley Process requires exporters to certify their diamonds as conflict free.

The exploitation of workers, taking advantage of poor countries desperately in need of capital, and the destruction of the environment during the extraction of the minerals are all ethical issues that affect the way manufacturing is organized. There are many more resource issues. To what extent can companies continue to extract minerals of all kinds without consideration for future needs? The economy of China is growing exponentially, and to continue that growth, the country seeks raw materials for its manufacturing. Currently, the Chinese are buying raw materials from Africa in almost unlimited quantities. Is it possible to set international standards for mineral exploitation? These examples illustrate the issues that must now be considered as a core part of operations management.

In practical terms, operations management is about a transformation process. Resources (raw materials and information) are the inputs into a series of operations that transform those resources into products (the outputs) that the customer has ordered. Manufacturing can be studied at several levels.

Product

This chapter does not address the ethics of producing cigarettes or guns—that is a different level of ethical debate concerning business strategy and the choice of industrial sector. Here we are looking at the way we carry out operations management and the decisions that have to be made when manufacturing products, from cars to clothes—whatever the product, choices have to be made in the design, use of materials, location of the facilities, labor hired, marketing tactics, and so on. Operations cannot be separated from business strategy, of course, and they can often contribute to new business strategies and policies because of innovation, product development, and consumer demand.

Processes

Manufacturing is divided into functional divisions. However, the transformation model comprises a number of processes that cross-functional boundaries and that may be carried out in a linear, or better still, in concurrent mode. Key areas discussed here are design, facilities management, and supply-chain management. At each stage of the model, ethical decisions have to be made. If the consumer is demanding an ethical product, this means that the whole life cycle of that product must be evaluated from an ethical point of view (generally referred to as life cycle analysis [LCA]). If a football has been made with child labor, for example, the consumer is likely to boycott the company.

Now that consumers are increasingly conscious of global warming, they want to know the energy efficiency of the end product, but they are also starting to ask questions about efficiencies in the actual manufacturing process. That also entails looking at the supply-chain to ensure that suppliers are manufacturing parts and sourcing materials in an ethical way. The Body Shop is a famous example of a company claiming to be ethical. They stated that their products were not tested on animals. However, they had to stop saying this, as they could not prove 100% that this was true all through the supply-chain.

Practices

At this level, we are looking at individual actions as well as labor practices and social issues. Most of these are internal to the organization, but may be influenced by regulation or standards set at national or international level. The debate concerning sweatshops and outsourcing of manufacturing is an example. Health and safety is another important area. Elliott’s (2000) list of unethical actions in operations management included

- cutting corners on quality;
- inaccurate documents and records;
- covering up incidents;
- abusing or lying about sick days;
- lying to deceive customers;
- putting other staff under inappropriate pressure;
- misuse of company assets;
- bribery;
- improper links to foreign government personnel;
- theft; and
- political connections. (pp. 23–24)

Elliott (2000) concluded that it is the responsibility of each manager to find his or her way through the complexity of the situations they faced, which are further complicated by cultural and nationalistic behaviors. Although many authors favor a Code of Practice and definitive policies and procedures, others suggest that such codes are often ignored. Elliott considered the external pressures on operations managers and suggested that when it comes to making a decision, the manager must live with the consequences of that decision. In practice, that could mean facing legal action for unethical conduct.

Industrial Sectors

There will always be differences between industrial sectors—how you run a power plant is very different from producing widgets for a car and is different again from manufacturing foodstuffs. The generalizations in this chapter must be adapted for any particular sector studied in detail: “We must move from a preoccupation with instant present gratification and high risk-taking for the short-term regardless of future consequences . . . to radically reducing

risk to the environment by supporting only green-green ecopreneurship and sustainable economic growth” (Isaak, 1998).

This chapter cannot do justice to every facet of the subject and is necessarily very selective. The material, therefore, is presented as interpretations of key concepts, each of which when considered in relation to operations management lead to more ethical decisions in manufacturing. There are many private and government-led initiatives and a range of tools to help measure, implement, or describe the phenomena, and some of these tools are briefly mentioned. What is not possible is to cover the different legislation and regulatory environment country by country. Such differences have a big impact on the way manufacturing companies around the world carry out operations management. A book expanding the issues discussed in this chapter is planned for later publication (Collins, 2008).

KEY CONCEPTS

Business Ethics

For many people, the term ethics is associated with corporate governance and with the issues surrounding financial reporting, executive pay, and the need for transparency in all transactions. Manufacturing companies like any other have to be concerned with such issues. A key issue in the debates about business ethics concerns the *purpose* of the organization. Friedman was well known for arguing that the sole purpose of an organization is to maximize profits. More generally, the conflicts of interest between different stakeholders have to be judged by the values and standards of the society in which they take place.

Business ethics has been defined as the following:

The application of ordinary human ethical values or principles in the conduct of business. . . . Business ethics is no different from other branches of applied ethics, such as medical . . . social . . . or sexual ethics, which all submit various fields of human behaviour to ethical and moral analysis and evaluation. (McEwan, 2001, p. 7)

It has been suggested that the concept “lacks workability” as there is no internationally agreed standard. Lewis (1985) helpfully set out the 10 most common concepts used in business ethics:

1. Rules, standards, or codes governing individual behavior at work
2. Moral principles developed in the course of a lifetime
3. What is right and wrong in specific work situations
4. Telling the truth
5. A belief in social responsibility
6. What is fair and above board

7. Honesty
8. The Golden Rule
9. Sets of values
10. What is in accord with one’s religious beliefs

An introductory discussion of the theories was well set out by Harrison, Newholm, and Shaw (2005). They linked the discussion to two strands of moral philosophy: either theories that privilege the *right* (consequentialist dealing with the outcomes of actions) or those that privilege the *good* (deontological or duty based). The problem with these theories is that they seem far removed from the way everyday issues and the way people behave. At a conference organized by Ethical Corporation in March 2007, many speakers discussed the need to communicate the issues in plain language. They also stressed the need to avoid negative, preaching messages. Change will not be achieved by telling people to stop doing something (e.g., using too much energy). It is essential to understand their aspirations and the way in which consumption is linked with their self-identity and, then, to find ways to draw them into taking actions that made them feel good. Ben & Jerry’s, the ice-cream maker, wants to engage young people in the campaign against greenhouse gases (GHGs). The aim of the company is to introduce carbon neutral ice cream from April 2007. This will include a full LCA including the cows, growing cane, vanilla, energy, refrigeration, retail use, and disposal. They calculated the company’s carbon footprint and realized that, to convince people, they must reduce this within the company first and that it must be linked to a sustainable dairy model. This is a process, not a one-off project, and the aim is to reduce the footprint every year. How do they communicate this to consumers? They practice what they preach and use advertising and clever slogans to spell out the message: “Take it from a couple of ice cream makers, if it’s melted it’s ruined.”

Globalization has made the discussion more complex as firms that do business in different countries must come to terms with the legal and social mores in each situation. The debate has become so widespread that ethics codes of practice and frameworks for implementation are now found in most businesses. Weaver, Trevino, and Cochran (1999) suggested that many firms paid only lip service to the idea, but the growth of ethical consumerism and work of many lobby groups has driven many to take the issues more seriously. Sometimes this has been driven by fear of lawsuits, by the media scrutiny of corporate scandals that has forced companies to become more transparent, by the legislation that has increased, and by the use of the Internet to publicize bad practices that has forced big brands to protect their reputations.

Corporate Social Responsibility

Corporate social responsibility (CSR) takes a wider view than business ethics. The latter is chiefly concerned with

internal affairs, but increasingly, there is a demand that rather than satisfy only the shareholders, corporations must consider all stakeholders including customers, employees, and the community as well as shareholders. Carroll (1991) suggested that CSR comprises four levels of responsibility:

- Economic
- Legal
- Ethical
- Philanthropic

More recently, the term *social responsibility* (SR) has become more common, demonstrating the idea that everyone, not just managers and directors, have a responsibility to take action. The European Commission takes the view that corporate social responsibility “is vital because it mirrors the core values of our society—respect for quality of life, the environment and human dignity” (see, for example, europa.eu.int/comm./employment_social/soc-dial/csr/green-paper_en.pdf). In the United States, CSR began in 1890 with the Sherman Antitrust Act. The trend continued and gained momentum in the 1960s. McEwan (2001) quoted the critique of Nader, Green, and Seligman (1977), setting out the issues arising from large corporations:

- industrial pollution and toxic waste
- racial and sexual discrimination
- management burnout/white-collar bias
- political influence of powerful corporations
- invasion of employees’ privacy
- deceptive information in marketing
- product safety of manufactured goods
- the price of technology including effects of pesticides, aerosols, and nuclear power
- multinational corporation exploitation of less developed countries
- increasing concentration of wealth and income in fewer hands
- business crime

Harrison et al. (2005) found that about 15% of the U.K. population are “CSR activists,” by which they mean that they tend to have higher expectations of companies in this area than the general public. However, with increasing attention paid to climate change issues (discussed later), this percentage is likely to increase faster than in previous years.

Measuring CSR is a perennial problem. Firms may set out their own performance indicators, and as there is no agreed definition of CSR, they cannot be challenged. Zerk (2006) reviewed the murkiness concerning what the responsibilities of companies are with respect to human rights and the haphazard enforcement of them. She drew attention to the problems of applying international law and the appointment of Professor John Ruggie as the United Nation’s special representative on business and human rights. She pointed out that there are already a number of procedures

until existing treaties including compensation schemes. Progress could be made by learning from past mistakes.

The new International Organization for Standardization (ISO) 26000 standard is intended to give guidance on SR, although unlike other international standards, it will not include third-party certification (Roner, 2006). The ISO will help to promote “common SR terminology, and be consistent, and not in conflict with, existing documents, treaties, conventions and other ISO standards” (pp. 39–41). Roner suggested that such a standard is better than a “coalition of the willing,” as ISO has a long-standing reputation and is used to coping with a multitude of international agencies. Although this standard may be used as a “prescription” and set only minimum goals, it could help developing countries without a tradition of SR to find a way of introducing these concepts. Unfortunately, some countries claim that new regulations are a “constraint of trade,” contrary to international trade agreements.

Triple bottom-line accounting (3BL or TBL) is one tool that can be used to measure a firm’s move toward CSR. Dellaportas et al. (2005) argued that social responsibility “encourages commercial organizations to consider the effects of their operations on communities” and that “social accounting” is a component of TBL (p. 202). This is also referred to as “profit, people, and planet,” as the concept includes attention to a range of values including economic, social, and environmental reporting rather than just financial reporting.

Unfortunately, as argued by Norman and MacDonald (2004), it is probably

in principle impossible to find a common scale to weigh all of the social “goods” and “bads” caused by a firm...and we will never be able to get broad agreement for any such proposed common scale...a number of studies suggest that most [codes] are neglected by corporations and have very little impact on their culture or operations.

The issues arising from CSR are many and various. In production, if a shipment is late as the quality levels have not been achieved, should the goods be sent if the customer is demanding immediate shipment? In a research report, is the analysis influenced by the company sponsoring the study? Issues of confidentiality, use of corporate resources, whistle-blowing, discrimination, and other human resource matters are all common problems (Trevino & Nelson, 2007).

Compliance

In some companies, compliance is equated with meeting the product specification supplied by the customer. This is considered particularly important in the aerospace and other high-tech industries. Many operations managers if asked about ethics or CSR will talk about compliance as if this is a totally separate concept. It is usually managed by different personnel who are in quite separate departments

and who have quite different training. Whether or not the compliance manager cooperates with the CSR manager sometimes depends on the personality of the managers and the policy of the company. Implementation of ISO 9000 (a quality management system) and ISO 14000 (an environmental management system) is taken for granted, together with the use of standards for many aspects of health and safety (OHSAS 180001), pollution regulations, and other legislation regarding manufacturing practices. A relatively new development is the implementation of SA8000. This is based on the UN Convention on Human Rights, and it measures the performance of companies in relation to labor issues. It is a factory-level management system, and it should be independently audited. There is a growing number of standards, and managers worry that these provide only a minimum benchmark and do not encourage a process of continuous improvement.

Development for Sustainability

The Brundtland Report (World Commission of Environment and Development [WCED], 1987) was a milestone in the acceptance of the notion of sustainable development, which implied “development which meets the needs of the present without compromising the ability of future generations to meet their own needs.” In the 1990s, the UN Millennium Goals (later known as the International Development Goals) further developed this aim by setting goals for poverty, education, gender, child mortality, maternal health, HIV/AIDS, environment, and global partnership. The goals drew attention to the interdependencies between achieving results in all of these areas.

Important ideological differences lead to conflicting interpretations of the term *sustainability* and *sustainable development*. This is partly because the authors of the Brundtland Report wished to encourage as many stakeholders as possible to sign up to the concept and the final wording was much influenced by political bargaining. Some emphasize the importance of growth; others focus on the implications for social change and impact on the environment implied by the term *sustainable*. Hence, some authors prefer the term *development for sustainability*.

The debate concerning the means to achieve sustainable development is well documented in the literature. Operations managers must take this into account when sourcing materials for production, and designers can contribute by minimizing the amount of materials required for a product. The four Rs—reduce, reuse, recycle, and recover—are driven by the need to minimize the waste of precious resources.

The Ecological Footprint: Industrial Ecology

To continue to live at today’s standards of living, two more planet Earths would be required to support such extravagance. As ecological systems do not coincide with national boundaries, this becomes a global not a local

issue. A number of authors argue that “The premise that human society is a subsystem of the ecosphere, that human beings are embedded in nature, is so simple that it is generally overlooked or dismissed as too obvious to be relevant” (Wackernagel & Rees, 1996, p. 4). They describe ecological footprint analysis as an accounting tool. It will be impossible to persuade people to stop waste and to stop treating natural resources as limitless unless there is a method by which to demonstrate the enormous greed that is inherent in free market economies. It is a useful addition to scenario planning, and studies that are limited to a study of subsystems instead of looking at the planet as a whole will underestimate the damage.

It is important to note that the concept of the ecological footprint does not imply a denial of technological progress. However, it is unlikely that technology alone can ensure the necessary efficiencies. Allenby (2000) agreed with this point of view, claiming that technology alone would not eliminate the need for “difficult and complex political decisions.” He defined the field of industry ecology as embracing “a multidisciplinary approach to the study of industrial and economic systems and their linkages with natural systems” (pp. 163–171). He stressed the need to stop treating environmental issues as overhead. This has led to ad hoc social solutions and too much focus on local rather than global problems.

Ecover was founded with the aim of reducing its ecological footprint. Based in Belgium, Ecover produces household cleaning products and detergents. It has already spent 20 years following the tenets of the Brundtland approach and believes that it is possible to cover our own needs without compromising the needs of future generations. The company sold a phosphate-free washing powder even before phosphates were regarded as an environmental problem.

The firm works with a five-point matrix that covers price, performance, convenience, health (WHO), and sustainability. Bremans (2005) described how CSR is part of the company’s DNA, illustrated by the way in which their mission emphasizes safeness for the company, their employees, and the consumers. They do not accept compromise, but recognize that not everyone has the same commitment. By always being honest, responsible, and engaging with the public, Ecover has shown that a relatively tiny company can compete with the large multinationals in a very competitive market.

The philosophy is not confined to the products: The factory is also designed to be environmentally friendly including a green roof. This insulation reduces heating in winter and removes the need for cooling in summer. The building is supported by renewable pine and the walls by recycled clay, coal dust, and sawdust made into bricks. Little artificial light is needed as the building faces south. Packaging is reused as many times as possible before being recycled. All ingredients are subjected to tests to ensure that they are from renewable sources and biodegradable.

As it is so successful, why has the idea not been copied? Ecover had an advantage that they set out from the start

to be an ethical company. Other companies have adopted many of the ideas that Ecover use but have not had the advantage of a greenfield site and a mission and strategy that embedded the ideals from the beginning. Studies of other companies suggest that they are in the same position vis-à-vis ethical manufacturing as they were when total quality management (TQM) was first introduced. The Japanese led the quality revolution, and other countries had to follow or see companies go out of business. It was hard to implement the changes required to achieve the demands of higher quality and reliability after years of acceptable quality levels (AQLs). As with TQM, the introduction of ethical manufacturing will take years to achieve. There will be examples of excellence but only a few firms will be able to implement the totality of the concepts in the short term. Just as it takes a long time to turn a large ship around, a large multinational must spend a great deal of effort to instill good practice throughout.

Emissions Control

The earth is an irreplaceable life-support system. Management of emissions is key factor in the control of global warming, and in March 2007, the United Kingdom became the first country in the world to set legally binding targets for cutting carbon dioxide emissions. The aim is to cut emissions of gases causing global warming by 60% by 2050.

Al Gore's *An Inconvenient Truth* provides a succinct summary of the main issues (also made into a film of the same title). He believed, "We have everything we need to begin solving this crisis, with the possible exception of the will to act." There are many misconceptions about whether climate change is a reality, but the evidence from the scientists is overwhelming. However, many people assume that there will be technological fix so they do not need to worry. Others assume that the planet is big enough to absorb all of our waste and emissions. This is simply not true. The greenhouse gases are thickening the Earth's atmosphere. The result is that a percentage of infrared radiation that normally escapes into space is trapped, which leads to global warming. Manufacturing processes should be using clean technologies to ensure that they do not contribute to the problem.

Waste Management

Waste costs. One way to persuade managers of the need to reduce waste is to analyze the cost of waste. Landfill disposal costs doubled in the United Kingdom in 2006. The cost of water and effluent disposal is estimated to rise by 18% over 5 years. On the other hand, if waste can be reduced by recycling or by recovery, sustainability targets can be achievable. The obvious wastes are energy and effluent charges: rubbish removal, the cost of the raw materials thrown away, the cost of labor in scrapped product, the

cost of consumables in all products, and the cost of wasted energy. In the United Kingdom alone, including hidden costs, waste costs industry 4.5% of turnover or £15 billion annually. There is a need to address the waste management hierarchy:

- Disposal
- Treatment
- Reuse and recycling
- Reduction
- Elimination

For most companies, this requires a statement of commitment to a regular a waste management process:

- Assessment of current situation
- Ranking of options (with costs)
- Feasibility assessment
- Implementation and management
- Review and audit
- Feedback
- Improvements

A manufacturer of car axle assemblies installed an oil-water separator, ensured treatment and recycling of waste oil, reduced oil use and manual machine cleaning, and saved to the point where disposal costs were negligible. A dyehouse installed water meters to monitor use and effluent. Optimized water valves, recycling, and improved house-keeping led to cost savings of £32,000 per annum. A new regime is essential to avoid "dump, dilute, and disperse" tactics. By using key environmental performance indicators, operations managers can be persuaded to clean up as well as reduce material, energy, and water use.

Hawken, A. B. Lovins, and L. H. Lovins (1999) wrote a very important book that discusses this and more. They stated that we should see the economy in terms of *four* types of capital

- a. human capital, in the form of labor and intelligence, culture and organization
- b. financial capital, consisting of cash, investments, and monetary instruments
- c. manufactured capital, including infrastructure, machines, tools and factories
- d. natural capital, made up of resources, living systems, and ecosystem services. (p. 4)

They suggested that we should eliminate the very idea of waste and redesign industrial systems on "biological lines that change the nature of industrial processes and materials, enabling the constant reuse of materials in continuous closed cycles, and often the elimination of toxicity" (p. 10).

Cradle-to-Cradle

It will be extremely difficult to break the cycle of denial, but adopting the “cradle-to-cradle” concept could be a major breakthrough. This is a key component of ethical manufacturing. Instead of assuming that a product will be thrown away (the cradle-to-grave concept), it is important to design the item to avoid waste, to consider the environmental impact of the product throughout the life cycle, and to design the artifact for reuse, disassembly, or recycling.

Stahel has been described as the father of the cradle-to-cradle concept, which suggested that we move from an economy based on goods to one that involved “service and flow”—consumers would lease or rent goods rather than buy them (see, for example, Stahel, 1981). Manufacturers would then have to take responsibility for the disposal of the goods and packaging at the end of their life cycle. Stahel was followed by McDonough and Braungart (2002). Their text is worth reviewing at some length, as it demonstrates such an important change of thinking. The traditional view is that we need to limit consumption and to persuade people to be less greedy. The authors ask why we should limit fun. There is an alternative:

In the midst of a great deal of talk about reducing the human ecological footprint, we offer a different vision. What if humans designed products and systems that celebrate an abundance of human creativity, culture and productivity? That are so intelligent and safe, our species leaves an ecological footprint to delight in, not lament? . . . Nature does not have a design problem, people do. (pp. 15–16)

An example of hazardous waste is the shoes we wear. Our shoes abrade as we wear them. The leather is treated with chromium—a heavy metal used in tanning—which can lead to cancer. It is not possible to retrieve the raw materials after use, so why not design shoes made with nonharmful plastics and polymers which could be recycled into new shoes?

McDonough and Braungart (2002) pointed out that we now understand the vulnerability of nature. “But modern industries still operate according to paradigms that developed when humans had a very different sense of the world.” They stated, “[A]ccording to some accounts more than 90% of materials extracted to make durable goods in the United States become waste almost immediately.” Not only is it often cheaper to buy a new version than to repair the original, but “many products are designed with ‘built-in obsolescence’ and the product itself contains on average only 5% of the raw materials involved in the process of making and delivering it” (pp. 27–28).

McDonough and Braungart (2002) argued that we are producing crude products, which are attractive, affordable, meet regulations, perform, and last long enough to meet market expectations. Such products are not designed for human and ecological health. They pointed out, “Of the ap-

proximately eighty thousand defined chemical substances and technical mixes that are produced and used by industries today [each of which has five or more by-products], only about three thousand so far have been studied for their effects on living systems” (p. 41). The authors said that this is not to suggest that the corporations are doing anything morally wrong. “They are the consequence of outdated and unintelligent design” (p. 43), and most industrial processes are “unintentionally depletive.” According to an ethical manufacturing point of view, these traditional attitudes *are* morally wrong. A new approach is urgently needed. Look in the textbooks; the phrase “cradle-to-cradle” is rarely used. LCA and cradle-to-grave still dominate current thinking.

McDonough and Braungart (2002) suggested that being less bad is not sufficient, nor is the adoption of environmental approaches without fully understanding their effects. This could be even worse than doing nothing. They quoted Einstein to summarize the problem: “If we are to solve the problems that plague us, our thinking must evolve beyond the level we were using when we created those problems in the first place” (p. 165).

End-of-pipe solutions are not good enough. The quality movement taught us that prevention is better than waiting for problems to occur. In the same way, eco-efficiency is no better than seeking efficiency only in production processes; it only makes the old system less bad. Rather, industry should plan to release fewer toxins into the atmosphere, reduce the number of processes, substitute materials that are not dangerous, and avoid producing waste. Why not design things on the understanding that waste does not exist? Move to a radical solution and design both products and systems that will sustain the Earth.

Papanek (1995) was another devotee of this concept and suggested that everyone should ask what the impact of what they do has on both society and the environment. He claimed that our actions have led to dysfunctional societies and that designers should assert themselves to be a bridge between human needs, culture, and ecology.

Rossi, Charon, Wing, and Ewell (2006) described the way in which a furniture manufacturer incorporated the cradle-to-cradle concepts into the company in an article that drew attention to over 350 chemicals used in office buildings, furnishings, and equipment. Included in the list were dangerous substances such as phthalates, flame-retardants, and other compounds.

Rossi et al. (2006) described how the company worked with McDonough to create a tool to measure progress toward the achievement of a cradle-to-cradle manufacturing facility. This resulted in a product assessment tool—the Design for Environment [DfE]. Applying this to the development of the Mirra chair, improvements included increased recycling and the elimination of the use of PVC. The company recognized that this was a journey not a project and that the continuous improvement implicit in the concept was a progression from previous concepts within the quality movement. It also realized that it was imperative to include

all of their suppliers, and over 200 were contacted to discuss the chemicals used in the components they supplied. This materials assessment is an important factor in design for reuse or recycling. Many textile companies are also working on these issues.

Greening the Supply-Chain

It is not sufficient for a company to make changes in its internal processes without insisting that similar changes are made throughout its supply-chain. An example of such efforts is the work of the U.K. retailer Marks and Spencer (M&S). Their main lines are women's wear, menswear, lingerie, children's wear, home furnishings, and food. They work with designers to create color and then to manage all processes concerning dyeing and finishing to produce the finished articles for sale in stores. This includes ensuring that their suppliers meet their minimum standards for worker safety, customer safety, and environmental compliance.

M&S has set up an online document that sets out the "Environmental, Chemical, and Factory Minimum Standards." This document continually changes to keep up with both legislation and company policy. Rather than just state prescriptive practices, the company takes care to explain *why* they ban certain substances, to explain the legal requirements, and to give best practice information. The document is a guidebook on how to comply, and it is underpinned by company policies such as "[w]e do not place orders with companies if we do not know full production routes." They do not do business with companies that pump untreated effluent into a river, for example, and they would take immediate action if their audit revealed suppliers carrying out such practices.

Dealing with a global supply-chain is complicated by the plethora of different regulations and legislation. Sometimes the problem is whose legislation. Chemicals that are permitted in certain levels in one country may essentially be banned in another. As companies buy supplies from some countries and sell in others, country of origin and traceability is an important issue. M&S try to have a single company standard based on legislation and a balanced view of what is practical and acceptable, but in extreme cases, they could find certain legislation inflicted on them that they feel to be nonsensical. For example, Japan does not allow any formaldehyde on children's clothes whatsoever, despite it occurring naturally at background levels, thus requiring the omission of perforations from bags and raising suffocation issues. M&S do not trade in Japan.

China is introducing legislation that bans certain substances at retail that are not banned in industry. There are substances legal to use in China but which cannot be used in the European Union above concentrations of 0.1%; yet China is starting to bring in other rules that are tougher than those in Europe. They have set a standard for banned amines (from azo dyes) of 20 parts per million (ppm), whereas the European Union allows 30ppm. The international standards

and regulations are so complex that M&S now enlists the help of experts to track changes in international regulation and legislation. For each fabric they use, M&S does a risk assessment to determine whether there is a chance of banned or controlled chemicals being present on finished products. Although they have an excellent track record for ensuring customers or workers are not exposed to chemical risks, their process looks for highest risk merchandise—they go looking for trouble. The rate of failure is satisfyingly low, but on the rare occasions that there is a failure, they act on it, not just in store but also throughout the supply-chain. Social issues are also a concern for M&S. If an auditor found machinery that is a hazard, he would insist on action to rectify it or might put the machine out of commission.

To increase customer awareness and knowledge of what they do and of the issues they believe to be important, M&S has launched a major initiative—"look behind the label"—and, in January 2007, launched a 100-point, £200 million eco-plan. This promises that by 2012 the company will

- become carbon neutral;
- send no waste to landfill;
- extend sustainable sourcing;
- set new standards in ethical trading; and
- help customers and employees live a healthier lifestyle.

Commentators and lobby groups alike have welcomed this "Plan A" as setting a benchmark and an example for other companies to follow. As M&S places such stringent conditions on its suppliers, it is likely that the benefits will be global and will improve ethical manufacturing practices throughout the supply-chain, in addition to setting an example to others.

Greenwash

One reason for the skepticism that surrounds the issues discussed here is the concept of "greenwash." Marketing and advertising mislead the public and confuse the issues. For example, car companies advertise their green credentials by claiming that they are producing green cars that aim at zero emissions. The aims are worthy but do not tally with the facts of manufacturing automobiles. However much the efficiency of the car improves—fuel efficiency, for example—most of the cars produced are gas-guzzlers. By strongly advertising the cleaner models, the manufacturers hope that the feel good factor will spread to other cars in the range. The full LCA figures for car use are not publicized.

Another claim is that consumers should buy wind turbines so that they contribute to renewable energy production. Despite the fact that in some areas there are days with no wind, retailers claim up to 30% reduction in energy needs. Only a very small minority could generate that much. According to a recent review, a company in the United Kingdom making these claims does not even sell energy-efficient light bulbs.

Some industries can make savings on a one-off basis, but as the economy grows, the savings will be neutralized. According to Monbiot (2007), everyone is guilty of greenwash unless he or she changes his or her behaviors and lifestyles; greenwash tells us what we want to hear and, therefore, is very dangerous. Green activists consistently lobby for manufacturers to change their methods of operation. However, without more education, greenwash will continue to fuel skepticism and inaction. It is essential that textbooks on operations management include these issues.

CONCLUDING REMARKS

Ethical manufacturing is a concept that brings together social and environmental issues in operations management. It treats these concerns as part of the manufacturing system and does not separate operations from social concerns. It embraces the developments in compliance and standards but goes further than product specifications, health, and safety within the manufacturing company. It demands attention to working conditions, labor rights and trading conditions throughout the supply-chain. It cannot be separated from wider issues such as industrial ecology, climate change, and sustainability. How products are designed and manufactured has to include attention to the ecological footprint. Implementation of the cradle-to-cradle concept can reduce the amount of waste—of material resources, of energy, and of poisons allowed to pollute our environment.

Dawkins (1989) discussed the way many of us see life in terms of competition, where if one person is winning, another must lose. He illustrated the problem by demonstrating the game “Prisoners’ Dilemma” (sometimes known as the Red-Blue Game), where participants must decide whether to fight or to cooperate. The highest score is achieved when they trust each other and cooperate—a win-win situation—but if one decides to go for the maximum score, the other becomes a loser. This was discussed by Axelrod (1984), who set up a computer tournament to test the Prisoner’s Dilemma. Specialists in game theory sent in programs that Axelrod played against each other. The winner was a program called “Tit for Tat”—this always started with cooperation, and afterward, each move copied the move of the other player. His work addresses the debate concerning how cooperation emerges “in a world of egoists without central authority.” Manufacturing firms must set up partnerships and share the responsibility of creating cooperative solutions.

The argument is related to the concept of “the tragedy of the commons” (Hardin, 1968). He described the idea of a conflict between herdsmen who graze their animals on the common land. If they jointly agree the number of animals that can feed there without reducing the carrying capacity of the land, they can all survive. If at some point they decide to maximize their own gains, the overgrazing leads to destruction of the resource: the tragedy of the commons means that all are ruined.

An important theme in Hardin’s (1968) discussion is that there is no technical solution. He defined such a solution as “one that requires a change only in the techniques of the natural sciences, demanding little or nothing in the way of change in human values or ideas of morality” (pp. 1243–1248). This is extremely relevant to the study of ethical manufacturing—to counteract the body of thought that believes there is always a technical solution. The processes involved in manufacturing have both a social and an environmental impact. Yet operations managers are not usually taught ethics or CSR. The survival of our planet and progress toward eliminating social evils such as extreme poverty demand that these issues are included in the operations management syllabus.

“Business as usual” policies will inevitably increase global warming and produce a crisis for future generations. Technologies already exist that are more energy efficient, that reduce the material resources required, that design for reuse, that have greater fuel economy, that rely on renewables, and that eliminate waste. Just adopting the current technologies would, according to Al Gore (based on the Socolow/Pacala study), bring emissions to below 1970s levels. Thanks to international agreements, since the late 1980s, the ozone layer has begun to recover and the use of CFCs is strictly limited. An earlier success was the elimination of DDT usage.

Insistence from investors on the inclusion of CSR and sustainability reports in company annual reports has begun to change the attitude of company directors to these issues. It is no longer sufficient to issue only financial reports. Lobbyists and activist groups around the world quickly advertise any shortcomings on the Internet. Although boycotts are less frequent than in previous years, the damage to corporate reputations through scandals concerning accounting, use of child labor, pollution, and other ethical issues is so serious that no company can afford to ignore the demand for information and transparency.

Public perception is crucial. People often do not understand the concepts and are confused by the jargon. Business can and should lead the way and publicize the work that they are doing. It is good PR, apart from the good it does for the planet. Few people are aware of the research that is done in the textile sector, for instance. They make simplistic judgments such as *organic* is good and *synthetic* is bad. Operations managers should step outside their factories to help inform and educate the public, as well as their own employees. Manufacturing does not work in isolation. Both upstream and downstream in the supply-chain, decisions are made which influence the environmental impact the end product will have. Marketing is also closely linked to manufacturing and the way in which a product is marketed can help to educate the consumer. Consumers now expect more information in advertising and in labeling, and government regulation is increasing.

Manufacturing alone cannot achieve sustainability targets and carbon neutrality, nor can it cure all the social ills.

Stakeholders have to cooperate on an international scale. Some argue that unless population growth is curbed all such efforts will fail to alleviate poverty and the UN's Millennium Goals will be missed. If, however, companies take the key concepts discussed in this chapter seriously and follow the example of those firms that are leading the way, there is the opportunity to make a significant impact.

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PART VII

ORGANIZING IN THE POST-9/11 WORLD

CONSTRAINTS ON STRATEGY OF AN ORGANIZATIONAL STRUCTURE

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This chapter reviews the impact that organizational structures have on the strategies of business organizations and how companies may resolve the inherent dilemma associated with balancing the conflicting adaptive pressures associated with short-run efficiency and long-run effectiveness.

The chapter proceeds as follows. First, the basic adaptive challenge is discussed, followed by a discussion of the role that organizational structure plays for meeting this. Next, the chapter reviews basic challenges in form of the constraints that organizational structures create for the realized strategy of the firm in the form of (a) strategy formulation constraints, (b) growth constraints, and (c) adaptation constraints. The final part of the article discusses how organizations can adopt ambidextrous structures that meet the dual challenges of short-run efficiency and long-run effectiveness.

THE ADAPTIVE CHALLENGE

Adaptation to environmental challenges represents perhaps the key task for managers of business organizations. This task is made difficult by the potentially conflicting tasks of efficiently exploiting current assets and knowledge while simultaneously ensuring future competitiveness arising from the development of new assets and knowledge (Eisenhardt & Martin, 2000; March, 1991; Teece, Pisano, & Shuen, 1997). Normally, exploitation and exploration are viewed as mutually conflicting activities, and the key reason for this appears

to be that they pose substantially different requirements for the organization in terms of the underlying organizational processes and structures (Gibson & Birkinshaw, 2004; Jansen, van den Bosch, & Volberda, 2006; March, 1991; Sidhu, Commandeur, & Volberda, 2007; Sidhu, Volberda, & Commandeur, 2004; Tushman & O'Reilly, 1996). Following this assertion entails that business organizations cospecialize their structures, technological orientation, and market strategies, and as suggested by Miles and Snow (1978), and organizations that fail to align these elements properly will show poor performance due to the inconsistencies among the elements characterizing their strategy, structures, and technological orientation. The traditional perspective therefore seems to hold that business organizations need to strike a balance between exploration and exploitation, suggesting that the underlying structures and processes are constraining in terms of the strategies that firms are able to implement. Other, more recent perspectives acknowledge this trade-off but emphasize that *some* business organizations are able to implement dual strategies, attempting both to increase efficiency in the short run while simultaneously improving long-run adaptability (Duncan, 1976; Gibson & Birkinshaw, 2004; Jansen, van den Bosch, & Volberda, 2006; Sidhu, Commandeur, & Volberda, 2007; Sidhu, Volberda, & Commandeur, 2004; Tushman & O'Reilly, 1996). This ability to maintain a dual strategic focus was referred to as "ambidexterity" by Duncan. While the managerial appeal of ambidexterity has been high, conceptual development of the concept and empirical evidence has been modest (Lubatkin, Simsek, Ling, & Veiga, 2006), although some studies show that ambidexterity may be associated with

higher performance (e.g., Gibson & Birkinshaw, 2004; He & Wong, 2004; Lubatkin et al., 2006).

ORGANIZATIONAL STRUCTURE AND ITS IMPACT

Organizational structures regulate the information flow in the organization and thereby influence the ability to adapt to changes in the environment and anticipate the consequences of policy changes (Scott, 1992). The design of the organization is therefore important, since it influences the organization's ability to act and react effectively, and thus, ultimately influences its performance. The commonly held view is that the organization's structure must fit its strategic intent and its realized strategy (with reference to Mintzberg, 1978; Mintzberg & Waters, 1982) to be effective—that is, to result in adequate organizational performance. The early contingency view held that organizational structures should fit different aspects characterizing its situation, such as environmental turbulence (Donaldson, 2001). The configuration perspective on organizations (Meyer, Tsui, & Hinings, 1993) represents a further development where a limited number of configurations of organizational properties such as structure, strategy, and environment are believed to be effective. Miles and Snow's (1978) strategic types are perhaps the most well-known example of this line of research. The fundamental insight of the configuration perspective appears to be that business organizations cospecialize their strategies and structures to achieve fit, and that inconsistent strategies are less likely to perform well (Ketchen, Thomas, & Snow, 1993; Miles & Snow, 1978). For example, the prospector strategy is associated with different administrative arrangements, market positioning, and technological choices compared to the analyzer and defender strategies (cf. Miles & Snow, 1978). In Porter's (1980) book on competitive strategy, this theme is echoed, and he suggests that the organizational requirements for implementing cost oriented strategies differ substantially from the ones that characterize differentiation oriented strategies (pp. 40–41). Thus, if the conventional view is accepted, business organizations that face adaptive pressures to be both efficient in the short run and effective in the long run may find it difficult to develop an appropriate posture due to severe design constraints (see also the analysis of Gresov & Drazin, 1997).

A number of examples support the constraining role of organizational structures. Chandler's (1962) historical studies of the second industrialization of American firms provided management researchers with one of the fundamental assertions relating strategy to structure—namely, that an organizational structure follows strategy. More precisely, Chandler found that strategic adaptation to new market and technological opportunities were followed by a period where the (old) organizational structure did not fit the (new) strategy, leading to poor performance. This lack of fit created pressures for changing the organizational structure,

hence, the phrase *structure follows strategy*. Chandler's study of General Motors is particularly instructive in this respect. General Motors reacted to the competitive pressure from Ford Motor Company by reorganizing their different brands of vehicles so that they targeted distinct segments of the general population. However, the changes in the market strategy without changes in the organizational structure created coordination and decision-making loads that were too much for the firm, and a period of disappointing performance resulted, leading General Motors managers to adopt the organizational structure to minimize coordination and decision-making load.

Chandler's (1962) work inspired many researchers in the field of business policy and strategy and led to empirical research that largely supported the main assertions regarding the relationship between strategy and structure. At the Harvard Business School, Bruce Scott directed a number of PhD students who explored the relationships between strategy and structure (Rumelt, Schendel, & Teece, 1991). Of these, the doctoral work of Rumelt (1974) is probably the best known. Rumelt's empirical classification scheme has spawned numerous empirical studies that relate different corporate strategies to performance (see, e.g., Christensen & Montgomery, 1982; Lubatkin & Rogers, 1989; Montgomery, 1982, 1994; Montgomery & Wernerfelt, 1988). Based on empirical research such as the aforementioned, it is now widely recognized that strategic adaptation without adaptation of the organizational structure is likely to result in performance below aspirations. With reference to the allegory of the chicken and the egg, the assertion that structure follows strategy is but one lens that can be applied to the problem. The performance deterioration that Chandler identified followed from misalignment of strategy and structure, and thus, can be interpreted as a structural constraint on strategy implementation. The remainder of the chapter will be devoted to the analysis of how structures constrain strategies.

In the ensuing pages, the chapter will elaborate on the relationship between strategic changes and organizational structure in the following three ways. First, organizational structure influences the strategy formulation process or strategic intent. I see this as a cognitive constraint on strategy. Second, organizational structure influences the capabilities the firm has for realizing different growth strategies. Third, organizational structures influence the firm's adaptation to external changes. But before the chapter turns to the detailed analysis of the relationship between organizational structure and strategy, the purpose and function of organizational structures will be reviewed.

THE PURPOSE AND FUNCTION OF ORGANIZATIONAL STRUCTURES

Organizations can be described as information systems that are composed of human, structural, and technological elements. The information system enables organizations to

reduce uncertainty about their task environment and external environment, and therefore, to make better decisions if the design of the information system's information-processing capacity reflects the underlying need for information processing (Galbraith, 1973; Tushman & Nadler, 1978).

The structure of the organization regulates the flow of information in the organization, and therefore, information processing can be viewed as an antecedent to the realized strategy of the organization (Cyert & March, 1963; Scott, 1992, chap. 4). For example, organizations develop procedures and mechanisms for obtaining, interpreting, and communicating information; they delegate responsibility for interpreting and communicating information and for making decisions. As organizations develop such structural properties, these may come to influence how issues are framed, what events decision makers judge to be important, and how problems are solved. Since the organizational structure is responsible for both channeling information within the organization and for filtering information into relevant and non-relevant categories, the structure is an important determinant for what the organization happens to perceive and for how the organization acts upon its perception (Leifer & Huber, 1977; Miles, Snow, & Pfeffer, 1974; Normann, 1977).

Arrow (1974) argued that the organizational structure represents an investment in information-processing capability, and remarked, "Once the investment has been made and an information channel acquired, it will be cheaper to keep using it than to invest in new channels . . . Thus it will be difficult to reverse an initial commitment in the direction in which information is gathered" (p. 41).

If information-processing capability in the form of the organizational structure constitutes a specific and irreversible investment, changes to the organizational structure are likely to be difficult and costly. The organizational structure in place will therefore impact on the firm's ability to adapt its activities.

The extent of the structural constraints that firms face may vary. Gresov and Drazin (1997) argued that the design constraints organizations face may vary from few to many. But even if there are many ways of designing organizational structures, specific and irreversible investments in organization design changes the situation to one where the firm moves from many options to few options, as it is very costly to implement structural changes. Once the commitment to a specific structure is made, the choice becomes constraining even if, a priori, multiple design options existed. Following Arrow (1974), organizational structures are not general purpose instruments but specific instruments that fit a narrow context, and they need to be internally consistent even if there are competing designs available a priori. This view is consistent with the conventional view held in configuration approaches to organizational structure (Miles & Snow, 1978; Miller & Friesen, 1984; Meyer & Tsui, 1993; Ketchen, Thomas, & Snow, 1993; Miller, 1993, 1996) where inconsistencies in the configuration, *ceteris paribus*, are viewed as detrimental for performance.

An organizational structure can be characterized in terms of different underlying design variables such as formalization, centralization, differentiation, and choice of configuration. These design variables are likely to be highly cospecialized, and if so, greater adaptation costs are likely to result, since the organizations cannot implement piecemeal changes but need to change whole bundles of design variables. This argument is well known in configuration approaches to organization where organizations are seen as a configuration of different interacting elements that determine performance (Dess, Lumpkin, & Covin, 1997; Ketchen et al., 1993; Miles & Snow, 1978; Miles, Snow, Meyer, & Coleman, 1978; Miller, 1996). A similar argument is put forward in the recent evolutionary NK-models (see, e.g., Gavetti & Levinthal, 2000; Levinthal, 1997; Rivkin, 2001; Rivkin & Siggelkow, 2003; Siggelkow, 2001, 2002; Siggelkow & Levinthal, 2003).

Designers of the structure have limited cognitive ability and limited information (Simon, 1955), and therefore, their expectations concerning the organization design requirements are likely to be incomplete. It is therefore likely that the configuration of structural elements will develop incrementally as design variables are cospecialized and the firm will face internal design constraints as well as external constraints (Burton & Obel, 2004; Meyer et al., 1993). As the organization develops over time and converges on a distinct model for design, organization designs are likely to become increasingly cospecialized (Miller, 1993; March, 1991). Organizations learn by doing, and the feedback provided through observation of performance outcome will lead organizations to select practices that are seen as successful and will drop practices that appear to be unsuccessful (Cyert & March, 1963; March, 1994; Nelson & Winter, 1982).

When organizational structures galvanize as a consequence of performance feedback, the flow of information also becomes more uniform. It becomes more predictable whether information is ignored, how information is now considered and weighed, and how it is transmitted within the organization. This suggests that both the strategic intent and the realized strategy of the firm may be influenced.

The notion of realized strategy differs from strategic intent. Realized strategy can be defined as a consistent pattern of behavior in the organization, while strategic intent is associated with a priori strategic choice (Mintzberg, 1978; Mintzberg & Waters, 1982; Venkatraman, 1989). Strategic intent can be regarded as strategy formulation that results in a realized strategy if the intent is carried through. In contrast to realized strategy, strategic intent may be possible to change at relatively low cost. However, the structure of the organization will most likely influence whether the organization will actually change its strategic intent.

Adaptation of the firm's realized strategy would be trivial if there were no adjustment costs, and it seems appropriate to assume that the firm's organization design is costly and hard to change, as stated above (cf. Arrow, 1974).

Consequently, organizational structure constrains the realized strategy (Ghemawat & I Costa, 1993; Leifer & Huber, 1977; Miles, Snow, & Pfeffer, 1974; Normann, 1977).

STRATEGY FORMULATION CONSTRAINTS

Essentially, strategy formulation constraints can occur in two related forms. One deals with the psychological and sociological mechanisms that underlie how organizational decision makers form their expectations about the situation and how to deal with it. In other words, this constraint is cognitive in its character. The second deals with how formal decision processes are influenced by organizational structure.

Cognitive Constraints

In an often-cited study, Dearborn and Simon (1958) stated, “An important proposition in organization theory asserts that each executive will perceive those aspects of the situation that relate specifically to the activities and goals of his department” (p. 140). Key to their explanation was that functional learning may lead managers to selectively perceive a limited range of issues. More recent research by Beyer et al. (1997) suggests that managers’ functional backgrounds may also lead to selective imperception—that is, failure to perceive stimuli related to areas other than the one managers have expertise within (p. 718). While selective perception and imperception are cognitive concepts that are related to individual learning, the individuals that compose the business organization are influenced in what they learn by the context they operate within. As stated earlier, organizational structures regulate the flow of information within the organization, and therefore influence from which stimuli managers ultimately learn. A few examples may illustrate this point. The division of labor in the organization—that is, the extent to which activities are specialized—will tend to influence the type of information about organizational activities that are produced. Each department in the organization will have its own performance metrics, and departmental managers will tend to focus on improving business processes that relate to their department based on such performance metrics. Therefore, managers may learn to ignore other sources and types of information they receive, and they may learn to search for only information that is relevant for their specific department. Departmental managers will therefore tend to communicate less information to their peers, as well as to superiors, than may be relevant. The extent of formalization in the organization will tend to reduce the information that managers consider. As formalized processes tend to be precisely defined, associated performance metrics will also be precisely defined, leading to a potential information loss both at the subunit level and at higher organizational levels. In addition, centralized organizations that concentrate decision-making authority at the top level

of the organization are forced to rely on less detailed and fine-grained sources of information, as the span of control of top managers is limited.

Counter to these structural characteristics are coordination mechanisms that are implemented with the purpose of handling interdependencies between functions. These are often referred to as either “liaison structures” or “liaison processes” (Miller & Dröge, 1986). Such processes attempt to reduce the negative consequences of information loss associated with specialization, formalization, and centralization. Their implementation often results in richer interpersonal forms of communication within the business organization (Daft & Lengel, 1986). Consequently, the use of liaison structures and processes may improve the chances of generating new insights. Contrary to specialization and formalization, the use of liaison structures and processes are costly. Therefore, the extensive use of such forms of coordination is likely to be more appropriate in highly dynamic environments.

Constraints on Formal Planning

So far, the argument in this section has concerned the cognitive biases and limitations that emerge from different structural arrangements where the effect resulting from formal structure is that information is filtered and its flow is regulated. The consequence will appear in the way that managers of business organizations tend to frame issues. But business organizations can also choose to implement processes that counter the negative impact of structurally caused biases, and a key process in this respect is formal strategic planning.

Strategic planning can be viewed as a process whereby the firm obtains and evaluates information about its competitive environment, its resources and capabilities, and other factors that are relevant to its strategic decisions (Armstrong, 1982). The consequence of strategic planning is to improve knowledge about these factors, and thereby reduce decision-making uncertainty in the firm. The benefits that can be obtained from strategic planning relate to the process for determining long-term goals, generating and evaluating alternative strategies, and monitoring the level of goal achievement (Armstrong, 1982). Strategic planning will therefore enable the firm to align its resources and capabilities with the environmental challenges it faces (Ansoff, 1991), which is believed to lead to better organizational performance (Boyd & Reuning-Elliott, 1998; Miller & Cardinal, 1994; Pearce et al., 1987).

Strategic planning processes are embedded in the organizational structure and will be affected by these. Strategic planning is a rational/analytical activity, and mechanistic aspects of structure are likely to influence how strategic planning processes unfold. Formalized and specialized organizations can produce extensive volumes of information that can be used in strategic planning processes. For example, information that is useful for benchmarking exercises, for

analysis of customer information, and so on. If formalization and specialization is high in the organization, monitoring activities and performance will be easier, and it is easier for the organization to produce highly reliable and standardized information for decision making. But if the problems that decision makers confront are highly complex, as they will tend to be in uncertain environments, the benefits of mechanistic properties of organizational structure are likely to be lower. Relevant information will be filtered by departmental managers, as discussed above, leading to lower quality decision processes. Therefore, organic elements of structure such as the liaison structures and processes just discussed will improve the quality of strategic planning processes in uncertain environments. Liaison processes and structures provide integration of organizational activities (Miller & Dröge, 1986; Lawrence & Lorsch, 1967). They are implemented to improve the interpretation of complex issues by bringing together different sources of experience, expertise, and information. These structural elements are therefore likely to support problem-solving efforts where the organization confronts highly complex problems with substantial degrees of uncertainty about means and ends.

Thus, formal strategic planning may be oriented toward achieving better integration of activities in a complex and changing world, but it may also be used to achieve better alignment of resources in the organization. Whether strategic planning processes converge toward either of these points is likely to depend on the organizational structure. Emphasis on mechanistic elements of structure in the organization will probably drive strategic planning processes toward exploitation, while emphasis on organic elements of structure is likely to drive strategic planning processes toward exploration. In other words, organizational structure can be a constraint on strategy formulation, with mechanistic structures being likely to converge on exploitation strategies and organic structures being likely to converge on exploration strategies.

GROWTH CONSTRAINTS

Penrose (1959) was probably the first to suggest that business organizations can create value by the way resources are managed. In her view, when firms deploy resources, they will learn from their experiences about which deployments work and which do not work. As firms learn, this generates opportunities for growth and innovation as the managers' experiences affect their perception of which opportunities are available for their firms. In strategy research, Wernerfelt (1984), drawing on Penrose's argument, suggested that resources can be used as stepping stones or leverage for new markets and strategies, and Teece et al. (1997) coined the phrase *dynamic capabilities* to describe "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. Dynamic capabilities thus reflect an organization's ability to achieve new and innovative forms of competitive

advantage given path dependencies and market positions" (p. 516). Clearly, the business organization's ability to *integrate, build, and reconfigure* depends on some underlying organizational structure, and organizational structure is consequently likely to play a pivotal role in realizing growth opportunities. This ability appears critical when the firm operates internationally, and when the firm is active in terms of developing new markets and products.

Integration is a complex strategy that essentially requires effective integration of different resources and capabilities that the firm deploys. On one hand, formalized approaches to structuring, relying on formalization or standardization, can reduce the coordination load on the organization, but complex strategies are more likely to rely on coordination by mutual adjustment of behavior—for example, extensive use of liaison structures and processes.

Innovative strategies focus on building or renewing the business organization's resources and capabilities. It is a strategy where the firm has to absorb new resources and capabilities, and this involves developing some "absorptive capacity" (Cohen & Levinthal, 1990; Zahra & George, 2002)—in this context, the business organization needs a capability to adapt its basic processes and resource base. Therefore, the business organization must establish organizational structures that are capable of handling novel, very rich, and very varied information flows. Cross-functional coordination and team decision processes are likely to be the most effective structuring of strategies that rely on renewal of resources and capabilities.

A growth-oriented strategy is one that attempts to leverage the firm's existing portfolio of resources and capabilities to the greatest extent. Therefore, the focus is on resource and capability replication. This type of approach is well known in franchising, where companies in the food industry such as McDonald's, Starbuck's, and KFC have developed an effective replication model relying on formalization and standardization. Since the strategy is concerned with exploitation of the known, the key organizational problem is to achieve control of this expansion of the firm's resource base, and this places the focus on organizational design parameters such as formalization, control, and motivation.

A special case is that of international growth. It is well known that international market opportunities arising from factors relating to trade liberalization, globalization of markets, and an increased global division of labor have led an increasing number of firms to compete internationally (Craig & Douglas, 1996). However, national cultures, business practices, and other important contextual factors often differ between the home market and international markets, leaving decision makers challenged in terms of understanding such basic problems as whether or how to adapt products, services, and operations to the international context (Johanson & Vahlne, 1977).

Three issues appear to be particularly important for international growth. At the most general level, acquisition and interpretation of information will be an important facilitator for international growth (Knight & Liesch, 2002; Liesch &

Knight, 2002). Secondly, the ability to effectively coordinate between organizational subunits that are separated by national boundaries is important (Egelhof, 1991).

Acquiring and interpreting information is viewed as important for internationalization, since it is necessary to have knowledge about the conditions that influence outcomes in international markets (Knight & Liesch, 2002; Liesch & Knight, 2002). Although some argue that experiential knowledge is an important constraint on internationalization (Johanson & Vahlne, 1978, 1990), others maintain that the acquisition and use of information is essential for realizing goals regarding internationalization (e.g., Cavusgil, 1980; Souchon & Diamantopolos, 1997; Walters & Samiee, 1990; Yeoh, 2000).

The international context, it appears, poses special problems for organizations. Formal structures tend to lead to more efficient coordination among subsidiaries in different countries but at the cost of less successful adaptation to local demands and business practices in particular nations. The solution to the peculiar challenges of international business may be to accept that there is no optimal solution while aiming for what is feasible. However, as will be discussed later, ambidextrous organizational structures may be critical for meeting conflicting adaptive challenges (cf. Duncan, 1976).

ADAPTATION CONSTRAINTS

Maladapted business organizations are not here to stay. This pretty much lies in the terminology, and it is trivial to list the many examples of organizations that have gone bankrupt or have diminished their prominence as a consequence of being poorly adapted. Hamel and Prahalad (1994) and Tushman and O'Reilly (1996) have documented several cases where large, resource-rich industry leaders have failed to adapt to the emergence of new markets and technologies. But why do even large organizations fail to adapt? Clearly, most organizations are led by very smart and well educated people. Large organizations usually have access to significant human, technological, and financial resources—and resource scarcity alone does not seem to explain why organizations fail to adapt to new circumstances.

At the most general level, evolutionary explanations such as the ones given in population ecology (e.g., Hannan & Freeman, 1984, 1989) suggest that organizational inertia constrains adaptation, and that early learning during the period of founding is a cause for inertia. Using the ecological explanation as a backdrop, organizational structures may galvanize at some point in the organizational life cycle as a consequence of learning. Burgelman (2002), Miller (1993), and March and Levitt (1988) have suggested that firms go through a development process where they converge on a simple repertoire of skills and unlearn other, potentially relevant skills. Burgelman (1991) has provided an instructive example of how extant structures, beliefs, and power constellations in Intel Corporation resisted change, and how

middle managers tried to circumvent formal structures and processes in championing new technologies. As business organizations evolve, their structures will increasingly tend to confirm existing beliefs about the state of the world as information flows become increasingly homogenous and predictable, making adaptation more difficult.

While this particular feature of organizations has been attributed to firms that follow exploitation-oriented strategies, it may also be relevant for firms pursuing exploration-oriented strategies. There are examples of companies that pursue increasingly marginal innovations, but fail to adapt fundamentally (Christensen & Bower, 1996), but there are also examples of companies that manage to adapt despite resistant organizational structures (Rosenbloom, 2002).

Previously in this chapter, theoretical examples have been provided that suggest how organizational structures tend to contribute to a narrowing of a firm's repertoire of skills. The most critical is Arrow's (1974) assertion that organizational structures tend to be investments in highly specialized information channels. The consequence of this specialization is that organizational structures therefore will tend to result in ignorance of information that is not captured by their specialized structures.

Earlier in the paper, it has been suggested that a key cause for maladaptation may be that organizational structures are not geared toward managing both exploration and exploitation, and that the absence of either may cause adaptive problems. Earlier in this chapter, this was attributed to cospecialized structures, strategies, and technologies (cf. Miles & Snow, 1978) that would eventually lead to a limited repertoire of skills (Miller, 1993). Consequently, organizational structures will tend to become self-confirming, and therefore, become a constraint when there are external contextual changes. This raises the issue of whether business organizations can develop dual structures that can facilitate both exploitation and exploration—that is, ambidextrous organizational structures (Duncan, 1976). Recent research suggests that ambidexterity may be possible to attain, and the next section will develop this argument in greater detail.

RECONCILING ADAPTIVE CONFLICTS

The ability to deal with the dual pressures of short-run efficiency and long-run effectiveness increasingly occupies the minds of the managers who run companies around the world. Globalization leads to competition from countries such as China and India, with vast numbers of highly skilled and motivated workers who invest in education and research and who increasingly enter high-technology sectors such as electronics, biotechnology, and information technology. This only makes the challenge bigger, since developing countries in the future will be able to meet the demanding standards of consumers and societies in the developed world.

The conventional view in mainstream strategic management, in contingency theory and its intellectual heirs such

as the configuration approach, and in other theoretical approaches holds that the key task is to obtain fit between the strategies and structures of business organizations in order to attain and maintain satisfactory performance. This logically implies that dual pressures will lead to unsatisfactory performance, since the business organization loses internal consistency between the organizational structure and the strategy (Burton & Obel, 2004; Miles & Snow, 1978; Porter, 1980). The conventional view furthermore seriously questions whether it will ever be possible to achieve simultaneous excellence in both exploitative and explorative activities (J. D. Ford & L. W. Ford, 1994; Lewis, 2000; Porter, 1996). According to conventional theory, implementing an organizational structure that allows the firm to pursue a strategy of simultaneous exploitation and exploration will not be recommended.

Duncan (1976) suggested that organizations should implement dual structures to deal with these pressures, and that business organizations that pursued these would be able to become ambidextrous. Recent empirical research shows that ambidextrous organizations appear to achieve better performance than organizations that specialize in either exploration or exploitation achieve (Gibson & Birkinshaw, 2004; He & Wong, 2004; Jansen et al., 2006; Lubatkin et al., 2006; Sidhu et al., 2004; Sidhu et al., 2007). While the managerial appeal of ambidexterity has been high, conceptual development of the concept and empirical evidence has been modest (Lubatkin et al., 2006).

The literature on ambidexterity suggests three means for obtaining ambidexterity: (a) structural ambidexterity (Duncan, 1976; Tushman & O'Reilly, 1996), (b) contextual ambidexterity (Gibson & Birkinshaw, 2004), and (c) behavioral ambidexterity.

Structural ambidexterity covers the use of organizational structure to achieve ambidexterity. The most common suggestion is to assign different strategic tasks to different business units that are then loosely coupled to each other (Tushman & O'Reilly, 1996). In this conceptualization, the task of exploiting the business organization's existing skills and markets is isolated from the task of developing new skills and markets. Thus, the business organization contains different units that have remarkably different agendas.

Clearly, within such structural arrangements, political conflicts among business unit managers are likely to emerge over issues such as performance measurement and allocation of resources—in particular, allocation of resources for R&D. The task of the top managers at the corporate level may quickly become difficult if they cannot appropriately balance these issues. History provides numerous examples—for example, in the semiconductor industry—of established firms that find it difficult to adapt to new technological opportunities; when new revolutionary technologies appear, the established firms lose their market dominance to new entrants (Tushman & O'Reilly, 1996).

At a different level—namely, the single business firm or within a business unit—we know less about structural ambidexterity. It is likely, however, that certain structural

features of business organization tend to support exploration activities and other exploitation activities. Thus, the use of special task forces, project groups, individuals who span different functions in the business organization, and various liaison structures are likely to be associated with effective exploration, while things like task specialization and formalization of activities are likely to be supportive of exploitation. Likewise, investments in certain types of information technology (such as Enterprise Resource Planning [ERP] systems) will support exploitation activities by providing better, more timely, and more precise metering of activities. Thus, the use of special task forces and projects are likely to help a business organization to achieve more exploration, even if the main activities revolve around improving short-run efficiency.

The use of structural mechanisms to stimulate ambidexterity may not be sufficient. Contextual ambidexterity refers to the behavioral patterns in an organization that arise from the key elements of the organizational context embedded in the structure, culture, and climate of the organization. According to Gibson and Birkinshaw (2004), "Contextual ambidexterity is the behavioral capacity to simultaneously demonstrate alignment and adaptability across an entire business unit. Alignment refers to coherence among all the patterns of activities in the business unit; they are working together toward the same goals. Adaptability refers to the capacity to reconfigure activities in the business unit quickly to meet changing demands in the task environment" (p. 209). Thus, contextual ambidexterity is a behavioral strategy in the firm that may be influenced by careful selection and rewards of key managers and experts who serve as the change agents in the organization.

The top management of a business organization is endowed with formal responsibilities and power that give them a pivotal role in achieving ambidexterity. Consequently, Lubatkin et al. (2006) have suggested that top management teams are key facilitators of ambidexterity in the business organization. Drawing on Hambrick's (1994, 1995) research and theory of top management teams, Lubatkin et al. (2006) have suggested that the extent of behavioral integration in a top management team will affect its ability to facilitate ambidextrous processes in the business organization. Behavioral integration is composed of a social dimension (that characterizes the level of cooperation within the team) and two task dimensions (that characterize the team's quantity and quality of information exchange, as well as the emphasis on making joint decisions; cf. Hambrick, 1994, 1995). When the top management team does not perform well in terms of behavioral integration, its ability to facilitate ambidextrous strategies in the organization is limited—the top management team will not be effective as simultaneous facilitators of exploration and exploitation.

In summary, the literature on ambidextrous organizations suggests that business organizations may be able to both achieve efficient alignment of existing activities and meet challenges for adaptation of their strategies to new market and technological opportunities. Unfortunately, the

conceptual development of the notion of ambidexterity is limited as is the empirical knowledge of its consequences. Even though recent research results are promising, much remains to be explored about organizational ambidexterity and its consequences. First, more research is needed in order to more convincingly show that achieving ambidexterity is possible, and that once achieved, it is then possible to generate superior performance. Second, mainstream theory would suggest that ambidexterity is a form of slack that is costly to maintain, but will also lead to less innovative breakthroughs because the commitment to innovation may not be sufficient.

DISCUSSION AND CONCLUSION

This chapter has focused on the impact of organizational structures on the strategies of business organizations, and on how companies may resolve the inherent dilemma associated with balancing the conflicting adaptive pressures associated with short-run efficiency and long-run effectiveness.

The chapter has shown that organizational structures regulate the flow of information within the organization, which leads to effects on both the strategic intent and the realized strategy of business organizations. The chapter has in particular emphasized the basic adaptive challenge of exploration versus exploitation, first emphasizing the conventional view that pose these as opposites, and then contrasting the conventional view with the notion that organizations can achieve ambidexterity by implementing dual structures.

The potentially conflicting tasks of efficiently exploiting current assets and knowledge while simultaneously ensuring future competitiveness arising from the development of new assets and knowledge remains a key challenge for managers (Eisenhardt & Martin, 2000; March, 1991; Teece et al., 1997). As discussed above, exploitation and exploration are viewed as mutually conflicting activities. The key reason for this appears to be that they pose substantially different requirements for the organization in terms of the underlying organizational processes and structures (Gibson & Birkinshaw, 2004; Jansen, van den Bosch, & Volberda, 2006; March, 1991; Sidhu, Commandeur, & Volberda, 2007; Sidhu, Volberda, & Commandeur, 2004; Tushman & O'Reilly, 1996). Conventional approaches to organization theory seem to support the view that organizational structures require a tradeoff between exploration and exploitation (cf. Miles & Snow, 1978; Burton & Obel, 2004). While acknowledging this trade-off, other more recent perspectives argue that *some* business organizations are able to implement dual strategies, attempting both to increase efficiency in the short run while simultaneously improving long-run adaptability (Duncan, 1976; Gibson & Birkinshaw, 2004; Jansen et al., 2006; Sidhu et al., 2007; Sidhu et al., 2004; Tushman & O'Reilly, 1996).

While a few studies have shown that ambidexterity may be associated with higher performance (e.g., Gibson & Bir-

kinshaw, 2004; He & Wong, 2004; Lubatkin et al., 2006), the evidence is not overwhelming. Therefore, much more research on the subject is needed.

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GLOBAL PROJECTS AS NEW ORGANIZATIONAL FORM

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According to Powell, a new “logic of organizing” has been spreading in market economies. This logic has translated into flattening of organizational hierarchies, weakening of firms’ boundaries in favor of networks of collaborations, and restructuring of competition between firms within and across industries. Especially project-based modes of organizing and controlling work have been on the rise. Developments in this context include the “projectified society” and, most recently, the global-project form of organization. What constitutes projectification? What constitutes the global project? How may these be universal solutions for the future, independent of context? We first review what generally constitutes a project. We then proceed to define what makes a project global. We then highlight the importance of bringing the organizational environment back into the analysis. All through our review, we refer to various kinds of industries.

WHAT IS A PROJECT?

Generally, at least since the building of the Great Pyramids of Egypt, there have been public engineering projects: temporary organizational forms with an explicit target and given a resource budget and a time frame. What is new is that functions in more and more business organizations are embodied in a project team. Firms as hierarchically controlled systems of work organization combining legal personality, centralized authority, arm’s length and adver-

sarial relations vis-à-vis other firms, investor ownership, and transferability of shares are less the standard organizational form than they were earlier. Firms are transforming into fluid, overlapping organizational arrangements in which both internal and external boundaries break down, and cooperation with other firms grows. The knowledge, capabilities, and resources of the firm are built up through the execution of major projects.

In considering what kind of drivers are behind the spread of the project form of organization from the public to the business domain, as well as the emergence and development thus of a fully projectified society, two underlying dimensions dealing with learning and the development of firm-specific knowledge seem especially important. The first of these dimensions concerns the extent to which global projects focus on developing unusual, sometimes “singular” or one-off products and services for varied—and often uncertain—markets. The second dimension concerns the extent to which the organization of expertise, tasks, and roles is “predictable”—stable or incurring only a minor adaptation—in comparison to projects that went before or after them. This review will consider each of these dimensions in turn.

Singularity and Agency Business as Differences in Degree Rather Than in Kind

In much feature film production in the United States, especially since the decline of the studio system, a considerable

number of technically qualified experts are contracted to work together on producing one or small number of particular kinds of products, whose specification is often open to interpretation and change over the course of the project. The nexus coordinating such projects and employing these staff is often a firm but one that is just a legal vehicle, or an “administrative convenience,” for paying wages, acquiring other resources, and owning property rights over the final product. Once the film or building is completed, the project unfolds; sometimes the firm also ceases to exist, except perhaps as a paper entity with one or two principals controlling property rights. Traditionally, also principally noncultural industries such as the construction industry have in many instances functioned in the same singular-project ways as the film has.

In contrast to the film industry, London-based advertising agencies simultaneously undertake a series of similar projects. In this industry, the model is that a core group of employees work together over a period of time and develop collective routines for managing such activities across projects that are similar to projects occurring before and after them. Such agencies often rely on outsiders to complete individual tasks, but retain a core group of employees for initiating, organizing, and conducting separate projects. The core actors develop distinctive capabilities and reputations as a result of the collective learning in their projects and in those of freelancers. The business remains more stable than it would if all agency staff members were freelancers. On average, staff members in an advertising agency are often quite mobile, changing employers in London, for instance, every two or so years. Ultimately, the ability to develop firm-specific knowledge over a succession of projects is also limited in the “agency business” projects. Thus, the mechanisms of knowledge development in both singular and agency business projects are essentially the same: some of the work, identity, and skills will always remain with individuals, rather than with the organization. We are talking here about differences in degree of singularity versus agency, rather than about two distinct kinds of projects.

Distinguishing Work Roles, Identities, and Skills Common to All Projects

Studies of consulting in its various guises—product design, engineering, and management, for example—show that on one hand, the individuals’ competences can migrate over time into parts of the stable routines and competences of the project-based firm, as well as into particular projects carried out by members of that firm. On the other hand, the firm can develop competences and stable routines that foster connectivity across individuals and their individual specific skills.

In singular projects, specialists contract each other to work together as a team to achieve a specific objective, and neither party in such a contractual arrangement typically has any expectation of continued employment or cooperation after the successful completion of that goal. In the

agency business projects, it is common to employ skilled staff on a semi-permanent basis to work in a number of teams on a succession of similar kinds of projects. Labor turnover may be considerable but teams and employers are able to learn across projects and to develop distinctive routines that could form the basis of firm-specific capabilities. Over the course of several projects, patterns of work coordination and control across agency business projects exhibit continuity more or less on the basis of these roles, identities, and skills. In sum, then, the more varied the project customers, goals, and problems are, the less projects are able to generate distinctive, organization-specific competences, and vice versa. In singular-projects, “freshness” or renewal is often developed more through changing team members than through developing new ways of working together and combining expertise in novel groupings. In projects that are characterized more by the agency business rather than by singularity, workers adopt different roles over the course of projects and in different project teams. Greater emphasis is placed on cumulative improvements in collective capabilities than on individual skill enhancement or “freshness.”

If one wished to differentiate between singular and agency business projects, the distinguishing feature is the degree of singularity, at one extreme, or role separation and stability, at the other extreme. Some projects combine tasks and skills in novel, fluid, and firm-specific ways, while others organize so that they rely more on preestablished competences, identities, and routines for working together to come up with competitive advantage. Studies of software and advertising in Germany and Britain, for example, have shown that projects with varying degrees of singularity can be accomplished with more than one kind of combination of role separation and stability. The feature film, Internet software, and multiple projects have also exhibited differences in degrees of key expertise and organizational structures, so that the precise project form is not fully deterministic of project outcomes, but is of a shape that is approximative.

WHAT IS A GLOBAL PROJECT?

Already, the title of this chapter reveals that more and more companies are now becoming structured around distinctly global projects, in which people with different skills or tasks on one hand and different cultural and institutional backgrounds on the other are brought together. Thus far, this review has given a fair description of what constitutes a project. Global projects differ from the conventional project in that they represent multiple cultural and institutional legacies. Literature on the topic defines a global project as a temporary organizational form with members presenting multiple cultures and institutional systems, as well as a specified target and resource budget and time duration. Organizing highly skilled workers dealing with complex problems to create novel outputs by integrating varied forms of expertise—also across cultures and institutional systems—represents a significant new organizational form.

The Role of the World War II in the Globalization of Projects

Culture and institutional differences among members in any project were long considered “noise” and were omitted from analysis. Projects involved—or were assumed to involve—project members from only one culture and one institutional system. For the project goal or target to be reached, activities for a very large-scale and complex project were, at least for the most part, colocated. For example, when Christopher Columbus’ project was to embark from Spain to find India, and he found the American continent, this was not a problem of a distributed work over long distances because all project work was centralized on his three-ship fleet. He could simply report what he found once he got back to Spain.

World War II marked the end of the era of the colocated project as the only kind of a project that existed. Two global projects took place during World War II: the invasions of Normandy and Germany. These projects required coordination and integration of Allied Forces. Even while the United States was the dominant military force, the forces took off from Britain for Normandy, France. The ultimate target was Germany, with France being only the beachhead. The United States, Britain, and France were (and still are) cultures representing considerable differences in experiences, language, values, and basic assumptions, yet orchestration was the key. Successful completion of the invasion of Germany required the orchestration of the actions, skills, and competences of representatives from more than one of these countries and cultures. The fact that the Russian forces proceeded to invade Germany from the east while the rest of the allies proceeded from the west further complicated the project. The Normandy Project was a global project in that it many cultures (the American, British, French, and Russian ones), whose representatives were intended to interact productively.

After Germany surrendered in 1944, a number of Germans were flown in from Germany precisely for the purpose of participating in the final phases of the Manhattan Project, in which the atomic bomb was developed and produced in preparation for a possible war with Germany and was dropped in 1945 in the Japanese cities of Hiroshima and Nagasaki. By the time the Manhattan Project was finished, it had involved 125,000 laborers and had cost nearly \$2 billion. The Manhattan Project has often been considered a culmination point of the colocated “big science” project, where the roles of preplanning and the project office in one site (in Los Alamos, in this case) are the keys to success. However, the Manhattan Project was, in fact, also a global project because of the participation of representatives of different cultural and institutional systems. From the beginning, it was carried out according to a proposal by the U.S. Office of Scientific Research and Development in 1941, when ways to facilitate across the cultural and institutional differences between the Americans and the Germans, for example, were hardly topics for explicit consideration. Moreover, the fact is that aside

from the German input, much of the basic research work ended up being distributed to researchers in Britain and in Canada, as well as in 13 major research sites other than Los Alamos across the United States. Thus, in one more ways than one, cultural issues in project management had become the key by World War II.

By the postwar years, global projects emerged indisputably as a new template for organizing large and complex engineering work in nonmilitary fields. The United States’ Marshall Plan and the reconstruction of Japan in the late 1940s and the 1950s constituted U.S.-initiated but essentially global projects, similar to the invasion of Normandy and the Manhattan Project.

Drivers of Global Projects

However, the birth of modern global projects can also be traced to further back than only 6 decades ago. The modern spread of project organization forms can be historically and causally linked to three instrumental drivers: (a) advances in transportation, (b) advances in communication, and (c) advances in information technologies.

The first and second Industrial Revolutions—at the beginning and end of the 19th century, respectively—involved major advances in transportation technologies. Primary among these revolutions was the railroad. The American railroad industry was a very turbulent industry in these early days. As reported in T. D. Judah’s “A Practical Plan for Building the Pacific Railroad” (1857 San Francisco: Henry Polkinghorn Printer), engineers and clerks at the project office prepared a formal report only after they received information from the field from managers in charge of surveys and operations. The project office functioned as an administrative office.

The railroad created conditions for mass production and economies of scale to emerge in many other industries as well. Serving the mass market, railroads created rapid growth opportunities for many firms. The large size of many of these new companies then turned coordination and control into key organizational challenges. The first solution that gradually emerged was the standardization of organizational routines, combined with a hierarchical and rigidly centralized form of control and reporting. This tightly coupled organizational solution, labeled since by Djelic and Ainamo (1999) as “the bureaucratic paradigm,” was gradually established throughout the first part of the 20th century as a “one best way” that could be equally suited to all companies and situations (p. 623).

When the British and the French constructed the Channel Tunnel in 1989 to 1991, steps were taken to organize the construction project as British-French joint *project* rather than as a bureaucracy. The English Channel Project was an international project that involved two government agencies (the British and French governments), several financial institutions, engineering construction companies, and other various organizations. The project goal, cost, schedule, and other factors needed to be adjusted to conduct the project.

Also, the language, use of standard metrics, and other communication differences needed to be addressed.

In the instance of the communication revolution, also the telephone was invented in the late 19th century. While the telephone was intended as a serious technological standard to support the bureaucratic form of organization, enabling and furthering advances in scale and scope of the operations of businesses, it was used in diverse ways, some of which had never been envisioned by the inventors such as Edison.

Within this context of transportation and communication revolutions, many industries that had earlier operated within a relatively stable environment and a “craft” model of organization, such as clothing fashion, experienced environmental turbulence. The fashion industry in France drew in participants into Paris from such places as Britain and Austria. The industry managed to be modeled as a peculiarly French phenomenon, despite an international pool of talent from which it drew. Yet the industry could not help but change in some way. Soon, it represented the first evidence to show that not all projects are quickly or effortlessly transformed strictly according to the bureaucratic paradigm. In the face of international turbulence in terms of class structures of societies, the French fashion industry in particular moved toward greater organizational flexibility in its haute couture of luxury segment. The French luxury fashion industry was imitated by rivals in Italy and the United States after World War II—that is, when what can be called a global consumer culture and demand for fashion began to emerge. The rivals took off in trajectories leading to organizational flexibility that differed significantly across the French model. However, at least in name, a global fashion industry was born, with a common identity and a shared rate of project-based change with four seasonal collections a year.

Film was long a cultural industry similar to fashion in that it pulled talent and institutional and cultural legacies from all over the world into one location—in this case, Hollywood. Like the fashion industry, the film industry took its model of organizing not from the military, but rather from the crafts. Also like the fashion industry, the film industry did not modernize until the late 20th century, and for much the same reasons. Global consumer culture and demand fueled this turbulence and helped in coping with it. The first large and complex projects were filmed in locations outside the studio and abroad in exotic locations, sometimes as far away as Africa.

Yet while global communication was a source of competitive advantage in film, global projects of communication have not always produced competitive advantage for the sponsors. Established in 1998, Motorola’s \$5 billion Iridium Project aimed to provide global communication service virtually anywhere at any time on the basis of satellite-based mobile telephony. A program office, with full-time project control managers, software engineers, and analysts, was established. The project control managers utilized sophisticated project management software called Primavera Project Planner (P3) to handle complex and interrelated project scheduling management. In March of 2000, Iridium

filed for bankruptcy, terminating its services. Once viewed as a technological breakthrough, the project ended quickly and mysteriously. The full-time project control managers, software engineers, and analysts were relocated.

In fact, the previous example of the film industry may be a good example of how information technology, rather than globalization of communication, is a driver of globalization in projects. Consider that by the time film became a truly global industry in the 1990s, software rendering of filmed material across time zones for the *Lord of the Rings* trilogy, for example, enabled and supported new centers of expertise in New Zealand. These centers sprang up and remained in addition to traditional centers such as Hollywood, Pinewood in Britain, or more recently, in Vancouver, Canada or in various locations in Ireland.

Since 1969, when the ARPANET was set up, the Internet has been as much a collection of technological communities as a collection of technologies and its success is largely attributable to satisfying basic community needs and utilizing the community in an effective way to push the infrastructure forward. According to Carayannis, Kwak, and Anbari (2005), between 1995 and 2000, the Internet started to change business practices in virtually every industry in the mid-1990s. Leading project managers around the world adopted Internet technology to become more efficient in controlling and managing various aspects of projects. In 1996, the first edition of the Project Management Book of Knowledge (PMBOK)—in its third edition at the time of this writing—was published (see Box 47.1).

The PMBOK is an internationally recognised standard (IEEE Std 1490-2003) that provides the fundamentals of project management that are applicable to projects in a wide range of industries, including those in construction, software, engineering, automotive, and so on. PMBOK recognizes five basic process groups typical of almost any project. The basic concepts are applicable to projects, programs and operations. The five basic process groups are: (1) initiating, (2) planning, (3) executing, (4) controlling and monitoring, and (5) closing. These five basic processes are seen to overlap and interact throughout a project or its phase. Besides the processes, the projects can be described in terms of (a) inputs such as documents, plans, designs, and so on, (b) tools and techniques or mechanisms applied to the inputs, and (c) outputs such as documents, products, presentations, service delivery events, and so on. The benefits of knowledge of these processes and ways of describing them is that integration is made easier, scope of project is kept from “creeping,” milestones are met with greater certainty, cost budget are not over-run, and quality is controlled. Moreover, the processes and their operationalization through such techniques such as work breakdown help to ensure that the manager is able to control the human resources, risk and procurement in the project.

Box 47.1 The PMBOK
SOURCE: PMBOK, 3rd edition, 2004.

In addition to transportation, communication, and information revolutions, modularity of outputs, visibility of processes, involving of clients, and cumulateness of technological development have also amplified and sped up the spread of global projects in various industries. Innovation is a driver of global competitive advantage. When global projects represent the key economic actor in the globally competitive Silicon Valley and similar innovative regions, global projects are established as an organizational form in other regions around the world as well. Global projects are organizational arrangements that enable the development of radical innovations in a number of industries—in particular, institutional regimes such as those in film, software, and biotechnology, for example. Global projects as a universal form include that global projects can also be radical projects that are part of larger corporations that, as a whole, do not follow a strategy of radical innovation.

FROM LOCAL TO GLOBAL PROJECT FORMS

Fashion and film are examples of industries that were long dominated by singular or “craft” form of organization, and such a form has never ceased to exist in these industries. Consider art movies and the fact that still today, in large part, haute couture clothes are part sewn by hand. Software and biotechnology are just some of the new industries in which the bureaucratic paradigm has never taken root. Project-based organizational forms thrive in all industries where cost competition is not significant and the customer values production exhibiting elements of quality craftsmanship.

By the end of the 20th century, transportation, communication, and information technology revolutions; globalization; and increasing customer sophistication radically redefined environmental conditions. The environmental challenges of this century clearly show the limits of traditional organizational recipes. The continuously reoccurring periods of severe environmental dislocation call for new organizational solutions that adapt to changing purposes.

Bringing the Environment Back In

There is much evidence that the bureaucratic paradigm has never been efficient in all situations beginning as early as the 1960s. This led to the idea of a contingent fit between organizations and their environments. The survival and effectiveness of organizations was found to hinge upon the right match between organizational capabilities and environmental peculiarities. While the idea of contingent fit has shaped organization theory to this day, the nature and direction of the fit and the mechanisms for change still very much remained a matter for debate until recently.

On one side, some have argued that environmental characteristics essentially determine and shape organization forms. Contingency theorists, population ecologists, and

more recently, organizational neo-institutionalists all have proposed variants of this argument. On the other side, others have put forward an entirely different claim. Strategic choice and resource dependency theories, the cognitive, and the more recent postmodern argument have all in one way or another defended the idea that organizations choose and shape, at least in part, their own environments.

In the late 20th century, a third modern framework emerged that for the most part bridged the controversy. Adopting a longitudinal perspective, coevolution theorists argue that environmental transformation and organizational change interplay and feed upon each other through time. In periods of relative environmental stability, existing and dominant organization forms define organizational populations and shape in part environmental landscapes. In turn, environmental transformations affect organizational populations and forms. In periods of relative stability, change takes place, but only in an incremental way, in a manner analogous to species variation.

Organization Forms for the Future

There is little doubt that the end of the 20th century was a period of significant environmental dislocation, at least as much as the end of the 19th century had been in its time. Many industries and companies faced increasingly turbulent, ambiguous, and hypercompetitive environmental conditions. In such conditions of environmental dislocation, to use the classic formulation of James G. March (as cited in Djelic & Ainamo, 1999, p. 624), the capacity to balance exploration and exploitation is necessary. It is necessary that the firm explore or search for entirely new kinds of solutions to ensure survival of the individual organization and the population to which such organizations belong. Exploration requires flexible and organic organization forms. The firm must find ways to promote cultural and political variety and still avoid inefficiencies, fragmentation, and political strife. It must move toward integrating—or preserving looser types of—mechanisms and more flexible organizational features, although it should not give up some of the clear advantages that come together with standardization and exploitation. Like all organizations and populations, the firm must also exploit existing resources, dominant solutions, and institutionalized search routines in order to be able to replenish their resources.

Design theory suggests a solution for handling this apparent contradiction: a redefinition of the organization as a “nearly decomposable system.” According to the Nobel Laureate Herbert A. Simon (as cited in Djelic & Ainamo, 1996, p. 624), “[T]he potential for rapid evolution exists in any complex system that consists of a set of stable subsystems, each operating nearly independently of the processes going on within other subsystems.” In such complex systems, each organizational part or module may be better adapted either for exploitation or for exploration. Pioneering global projects by leading firms appear to point toward

this kind of flexible combination of subsystems or modules, where a core competence corresponds to each module. Near decomposability—or “modularity,” as it is commonly labeled—thus seems to be key in managing complexity in tomorrow’s organizations. In fact, project-based forms of organization, allowing modularity, are emerging and thriving in many global industries.

However, while there is widespread agreement among organizational practitioners and theorists alike that competences and modularity can indeed make it possible for organizations to reconcile flexibility with cost efficiency, the global project is, as of now, more of a ragbag than a clear paradigm. Many different organizational experiments do fit under the label. It seems, in fact, that the road to the future is not straightforward, but rather, that it leads to multiple “migration paths” or trajectories of change. A coevolution perspective with a historical and comparative dimension has helped account for this—each trajectory only makes sense, in fact, within a particular institutional context and in connection with specific historical legacies.

In sum, evidence from such industries as the railroad, fashion, film, software, and biotechnology industries shows that multiple forms, solutions, and trajectories appear to be ultimately converging and differences staying beyond the foreseeable periods of transition and acute environmental dislocation.

Specifying How Global Projects Spread as Organizational Form

Through time, project managers have seen their job as a process of interaction between the way their work is organized, the project goal or target, and local constraints. Research on new organizational forms in the coevolution perspective suggests support for this view: environmental transformation and organizational change interplay through time in a path-dependent and historically constructed process, in which projects and their global and local environments feed upon each other. Research on many industries strongly suggests that the current period of acute environmental turbulence is, in fact, a period of transition, characterized by search, exploration, and multiple but temporary solutions.

A matter long open for discussion was whether, after the current and foreseeable periods of transition, the organizational landscape will end up converging upon a unique, widely legitimated, and institutionalized organizational paradigm. Now, it is quite clear that the global project is an organizational form showing clear signs of convergence. The global project is made a robust form by virtue that it takes in and builds on elements from earlier forms. The global project treats existing knowledge and skills as bases on which to build new ones. This building of new knowledge and skills builds on a recombination of different bodies of existing ones so that a multidisciplinary team forms around a specific project of innovation. Similarly to what project man-

agement practitioners call an “adhocratic” organizational form, the cultural diversity inherent in the global project suits it for recombining competencies in novel ways. Task coordination in the global project includes the requirement to have social and cultural skills to manage the cultural and institutional diversity of global projects. When high cultural diversity is managed, it produces novel competences of culture and product, service, or other artifact.

Like other projects, the global project is by definition dissolved upon successful completion of project goals, a feature that is spreading from the feature film and other entertainment industries to software, biotechnology, and other similarly highly dynamic new media sectors. Relatively small entrepreneurial firms still remain important actors in biotechnology because this is an industry that is not yet mature to a degree that established pharmaceutical companies would acquire and swallow up precarious start-up firms. There are at least two kinds of industries in terms of global projects: (a) those where global projects are already a reality and (b) those where global projects are not yet a reality. Individual and organizational learning are here the keys to the development of innovations and effective dynamic capabilities. Global projects create their distinctive signature by coordinating the internal division of labor and by recombining the knowledge and skills of the individual project participants, sometimes also taking in collective capability when it exists. In this sense, both singular and agency business projects are viable organizational solutions. In the first instance, capability is more of a coproduction of individuals, while in the second instance, core actors carry also collective capability from earlier projects. The common characteristic in both kinds of global projects is that a major part of the collective capability becomes a reality when participant commitment is a reality.

GLOBAL PROJECTS AS ORGANIZATIONS OF THE FUTURE

This chapter has defined what differentiates global projects from conventional projects and from traditional organizational solutions, what drives the existence of global projects, and how they spread. The chapter has also identified how the global project is more than likely to become significant in various circumstances.

The global project is a distinctive kind of organizational solution that is significant in an increasingly broad array of industrial sectors and societies, each with small variations. We can distinguish between singular and agency business global projects. We can distinguish between individuals with distinct powers or responsibilities and project tasks that are independent of a precise individual for any given project task. The global project as an organizational form is robust in that it can treat both instances as extremes of various combinations of individual roles, identities, and skills and the projects tasks at hand. Global projects can

be clustered into more than one variant, but it is difficult to find a mutually exclusive categorization. In one cluster, it is easier to develop firm-specific capabilities and knowledge through the management of a succession of projects and employment of skilled staff than it is in another, but these are but various shades of gray.

The many commonalities and the few differences are important for understanding industries and locations such as Silicon Valley, Silicon Alley, the Italian industrial districts, and Denmark. The contingencies we have identified suggest a number of reasons why different types of global projects appear to be more or less popular in these contexts. Global projects vary only in degrees of singularity in how they elicit commitment from investors and workers, and how activities are managed. Given this rise of singularity in how to organize industrial activity, it appears beyond doubt that global projects are becoming more noticeable in a range of global industries and markets. As technologies and markets develop to become increasingly global, global projects will play increasingly significant roles rather than be replaced by nontemporary or fully routine operations. The extent to which the competitive advantages of global projects are manifested in particular time and space in one way or another depends on the precise degree of singularity and stability of work roles. Where firms are established to create a single or very small number of discrete, separate kinds of products and services, and employment contracts are highly project specific, the global project manifests itself as a singular project in one site. Such a project is too temporary an organization to develop central actorhood or business agency in terms of explicit firm-specific organizational or technical competences. Knowledge created is appropriated by individuals and by small teams. Here, witness the public-sector project of internationalization in the case of Soviet Union, a collective that since declined and ceased to exist, while many Russian robber baron—individuals to the extreme—of the 1990s and the new millennium became very rich. Witness industries such as feature film and luxury fashion that have been from the start project-based. In all three of these examples of Russia, feature film, and fashion, learning has remained primarily individual- or team-based. Skilled workers directly and spontaneously coordinate their activities without relying on managerial routines or organizational procedures. Employees in such as system may even improve technical and team working skills during each project, but such incremental growth in problem-solving capacities remains the property of the individuals involved and is not codified into organizational procedures and practices.

The managers of many global firms in industries such as information and communication technologies now invest in knowledge management systems and related procedures for codifying, combining, and disseminating project-based knowledge that enable the organization as a whole to develop distinctive organizational competences. By focusing on the singularity of global projects goals and outputs and on the separation and stability of skills as critical features of global projects, this review has suggested a way to

distinguish global projects as a distinct and increasingly universal organizational form that helps to explain the spread of global projects in an increasingly broad array of sectors, industries, and societies. In the current global economy, success in developing particular technologies and markets is associated with success in global projects and with effectively dealing with the commitment and coordination problems of exchange and work across cultural and institutional differences.

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ARTISTIC METHODS AND BUSINESS DISORGANIZATION

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The idea that artists' work can usefully inform business practice has gained support in recent years. Managers have long described some business activities as "more art than science." By this, however, they have usually meant that they do not understand the activity and cannot do it reliably themselves. In this view, artistic methods and art-like activities are personal and intuitive—even magical—not yet sufficiently analyzed, routinized, or rationalized to be trustworthy. Authors such as Adler (2006), however, note that an increasing number of companies are abandoning the notion that art practice within business signifies a problem; they have embraced artistic processes in approaches to strategic and day-to-day management, leadership, and teamwork. Management researchers, too, have drawn practical lessons from artistic methods in design (Bolland & Collopy, 2004), music (Hackman, 2002; R. Zander & B. Zander, 1998), theatre (Austin & Devin, 2003), and other areas. Scholars have also proposed art principles and art-based philosophies as organizing bases for business firms (Guillet de Monthoux, 2004) and as conceptual lenses through which we can more completely understand organizations (Strati, 1999).

One possible reason for the emergence of art practice as a candidate model for business practice is the growing economic importance of "knowledge work" in the late 20th and early 21st centuries. We used to think in units of "horse-

power." A horse leaning into its collar, tugging a weight, is an excellent metaphor for our traditional idea of work: force exercised upon solid objects. In knowledge work, however, we do not move weight. We collect information, organize data into knowledge, and make value-creating transformations that occur in the realm of ideas; according to Drucker (1959), knowledge work is "based on the mind rather than on the hand" (p. 120). A lot of this mind work is now done on computers and involves changes of electronic state rather than of physical position, size, or shape. Rapid growth has underscored the economic importance of entirely new knowledge work job categories such as digital effects artist, drug researcher, graphic designer, software engineer, or product stylist. Such work often involves *innovation*, an effort to generate outcomes that are valuable because of their novelty. Although artists may employ different (not "business-like") criteria to decide what constitutes a valuable outcome, most are, in one way or another, striving for outcome novelty ("originality") that they and others consider valuable. The ways they create these valuable novelties may, we now understand, suggest ways to improve business practice.

The men and women who do innovative work differ in important ways from those who do routine industrial work. Often they are highly skilled individualists, people who act more like artists than like assembly-line workers.

Most value work for its own sake, not just for the wages. These distinctions have far-reaching consequences for the men and women who lead and manage this kind of work. Many of these consequences issue from the fact that these workers usually know more about what they are doing than their managers can. Even more difficult, when artist-like knowledge workers get together in teams, the novelty they produce tends to proliferate exponentially; they dash into unpredictable areas. The synergy of their combination can thrust managers into a state of watchful—even fearful—anxiety.

An impediment to artful collaboration, more potent than a fear of ambiguity and uncertainty, is this: How do you assign individual credit and blame to the work of a group? We take our usual metaphor, our category for thinking about working together, from athletics. We designate teams. Teams, however, can be a poor metaphor for collaborative work. Teams work together, but they do not collaborate in the way that artists do. A team often has clearly marked tasks, roles, and areas of expertise. Athletic teams think of winning or losing. Business teams tend that way, too. An artful work group, in contrast, relies on interdependency among the members and honors the unique contribution of each as essential material for the group's final outcome. We do not have a business term for this kind of work group. In music and theatre, it is called an ensemble. When an ensemble replaces one member, the entire ensemble becomes a new group, and everyone must reconceive the way they work with each other.

The strategic importance of innovative work increases daily, especially for firms in developed economies, as non-innovative, routine work moves to places where it can be done at lowest cost. Countries such as China and India, with nearly infinite supplies of cheap labor, can create industrial companies and brands that will be difficult for Western firms to outcompete on cost. A company in Australia, Europe, Japan, or the United States that says to its customers, "Buy my product/service; it's just as good as theirs, but it's cheaper," may already be seriously threatened. Strategy experts (e.g., Porter, 1980) tell us that the viable alternate strategy urges customers, "Buy my product/service; it costs more than theirs, but it's better." To convince customers to pay a higher price, however, products and services must have aesthetic appeal as well as equal or superior functionality. In fact, because aesthetic appeal is more difficult to comprehend and replicate than functionality, an art-based strategy might be the most effective one a firm could adopt to compete with products and services from "offshore."

This shift in the nature of work and business value creation has created needs we did not have back in the day when art and industry were safely separate. We need new categories for thinking about work and its outcomes. The ones we are likely to have, drawn from experience of manufacturing as the model for making physical things, do not help us think clearly about making digital things, idea things, and services. We need also to know more about the nature of value creation when it arises not from processes

that become ever more efficient in producing consistent outcomes, but from processes that consistently produce valuable *inconsistency*, or valuable novelty. This kind of value creation rubs us the wrong way if we acquired our business reflexes through industrial experience (and business schools), but for artists it is second nature.

Before we describe the principles, processes, and practices that art suggests for business, we must first take up a basic misconception about how artists do their work. The phrase *disorganization* in the title of this chapter suggests this misconception. Although the idea has no published defenders that we know of, many (perhaps most) business people often seem to believe that making art and making business value have nothing in common—that business requires qualities of order, constraint, discipline, and rigor that artists know nothing about. This could not be further from the truth. Art, indeed creativity of all kinds, means making new things, but that emphatically does *not* mean that artists can do whatever they want to. Many accept deadlines as unforgiving as any in business (e.g., a theatre's opening night: the tickets are sold, and the curtain will go up on the appointed evening at the appointed hour). Our research (Austin & Devin, 2003) suggests that art making involves processes as rigorous as any in business.

RANDOMNESS, DISORDER, AND CHAOS IN ARTFUL PROCESS

Donald Campbell (1960) proposed an influential model of creative process based on Darwinian evolution. It can help us understand why artful process often seems disorderly—even chaotic—when viewed by people not trained or experienced in art. Figure 48.1 illustrates his simple, two-stage model. In the first stage, a maker (individual, group, or organization) creates novelty by generating variation. The Campbell model specifies a particular form of variation, "blind" or random variation; as we shall see, it will be useful to relax the assumption of randomness to consider other kinds of variation. In the second stage, the maker "selectively retains" some of the varied outcomes and discards the rest. To make value judgments, the maker uses criteria that he or she may never explicitly define. Makers may use better or worse criteria, or have different levels of

BLIND VARIATION

+

SELECTIVE RETENTION

Figure 48.1 The Campbell Model of Creative Process

ability to see value in the various outcomes. Although the Campbell model does not specify a third phase, different makers might also be differently skilled in exploiting the outcomes they retain.

If we take seriously Campbell's model of creativity, we must assume some degree of disorder at the beginning of an innovation process. Such randomness could be inside the mental processes of a creative individual, as some have proposed (e.g., Simonton, 1999). Group processes, however, often explicitly depend on disorderly accident. The history of great inventions and discoveries abounds with examples of accidents that an inventor or discoverer recognized as a vital piece of some creative puzzle. (See Gratzler, 2002 for many examples.) In our own research, we have found examples of artists who intentionally cause "accidental" outcomes. One renowned potter, for example, made a habit of hitting his beautifully formed urns with a stick as they dried to achieve shapes that he could not plan or predict.

Variation generated by human agents, however, is not usually purely random. People are not effective randomization devices. If we consider nonrandom variation, we can imagine people having different tendencies toward varied outcomes and different abilities to produce outcomes that are, somehow, interesting. As long ago as 1950, Guilford observed that some people tend toward divergent mental "production" (they imagine many possible solutions to a problem), while others tend toward convergent production (they focus on deducing a single solution). Artists, by training and practice, tend toward divergent thinking. They see imagination as a tool, not a distraction.

Selective retention involves convergent thinking, of course, at which artists may also be particularly practiced and skilled. Louis Pasteur (1854/1954) famously referred to the "prepared mind" as a capacity to recognize value that no one else can see in chance outcomes, Cohen and Levinthal (1990) expanded this notion and applied it to groups and organization, using the expression *absorptive capacity* to label skill in recognizing value. They identified the primary kind of preparation for this capacity: the amount of knowledge that people within a firm have accumulated about knowledge of the area of innovation that is available *outside* the firm. As we shall see, artists have something further to teach business managers and scholars about the kinds of preparation that enhance the capacity to recognize value.

The possible presence of randomness within a creative process does not mean that the process is disorderly or chaotic. Artists often work by a rigorous process of creating variations and then deciding what to discard and what to keep. In some art forms, this is called "rehearsal." In others, it may be some form of practicing, sketching, or collecting of ideas that either directly applies directly to the current project or "might come in handy" some day. Such preparation requires a high order of discipline and skill.

Any particular business, however, may suffer disorganization. Chaos may take over a process for any number of reasons. Here, too, the artful mind has an advantage: accustomed to creating form, to seeing form develop and emerge

as a normal part of the making process, an artful observer is not uncomfortable in the presence of ambiguity or even chaos. Chaos looks like potentially interesting variation. Ambiguity looks like a desirable license to make choices about what to select. Tasked with understanding and reconceiving a disorganized process or organization, the artful maker can begin at the true beginning, unhampered by the baggage of preconceptions brought along with industrial categories.

ARTISTIC METHODS AS MODELS FOR BUSINESS PRACTICE

Artistic methods offer surprisingly productive ways to think about business organization. At first, of course, like anything new, artful organization appears formless and, perhaps, even threatening or dangerous. When audiences first heard Beethoven's Third Symphony, the *Eroica*, they did not know what to make of its startling originality, its break from the past.

At first critical response was guarded. On February 13, 1805, readers of Leipzig's *Allgemeine musikalische Zeitung* read this report: "The reviewer belongs to Herr van Beethoven's sincerest admirers, but in this composition he must confess that he finds too much that is glaring and bizarre, which hinders greatly one's grasp of the whole, and a sense of unity is almost completely lost." Opinion about the Third Symphony shifted rapidly. By 1807 nearly all reactions to the piece were favorable, or at least respectful, and critics were starting to make sense of its more radical elements and accepting it as one of the summit achievements in all of music. (Philharmonic Society of Orange County, 2007)

When Pierre Monteux conducted the world premier of Stravinsky's *Rite of Spring*, the Paris audience erupted in outrage and threw vegetables at him and the orchestra. The piece is now a standard of the orchestral classical repertoire and does not sound revolutionary to our ears. We have already absorbed enough of the world of Stravinsky to turn what was ugly to sophisticated ears in 1913 into something that seems normal (though certainly not ordinary!) to the most innocent ears today. Some ways of organizing work along artistic rather than industrial lines will have a similar effect on workers and managers alike. Those committed to the way "we've always done it" may panic; those with new categories for how to work will start hearing the tune.

Categories derived from artful organization, from an artful frame of mind, are good for looking at (and seeing) new forms. The artful mind seeks form in the organization of internal principles that derive from the current moment or task, not in externally derived, preplanned, or mechanically applied instructions or specifications. This artful skill of seeing patterns form is very like long experience in other realms. For example, the experienced fisherman looks at the dawn sky, smells the air, feels a breeze from the South,

and knows he had better be back in port by noon. Sure enough, by noon the wind has backed into the North and has whipped the bay to a lathery froth. How did he know? Because he has seen many early mornings on his bay. Features of the water, air, and sky that have no meaning to the less experienced speak volumes to him. An artist sees a new form in a similar way and understands things that do not show up on an apparently calm surface.

New forms are notoriously hard to recognize, even when they are right in front of us. When we add to that fact our natural distrust, even fear, of innovation, it is clear that change, even necessary progress, can be hard to accomplish. The familiar has at least the virtue of familiarity. We know where we stand. Who knows what might happen if we do something different?

A composer friend told us a story about his first composition class at the Eastman School of Music. Without saying anything, the instructor put on a record, and just played the piece. To the class, it sounded like white noise. It lasted maybe three minutes. The instructor stopped the record player and began the class. The next day, the instructor did the same thing: the class began with three minutes of white noise. By the third repetition, the guy who turned out to be the class genius started tapping his pencil to the “noise.” By end of the next iteration, most of the class pencils were tapping to a piece for pianos and percussion by Bela Bartok. These young composers learned to look past the new sounds and perceive the new form. Needless to say, this is a very nuanced example of the idea of a prepared mind.

THE ARTISTIC SENSIBILITY: PRINCIPLES, PROCESS, AND PRACTICE

Research in this area allows us to point out some specific artful principles, process characteristics, and practices that offer potential benefits to business firms.

Artists as Makers

Artists make stuff. They all have that in common. Painters, poets, sculptors, and composers all will sooner or later tell you, “I like to make things.” Therefore, if we want to look at business processes with an artful sensibility, it is helpful to conceive of business as a kind of making. Confronting an example of apparent disorganization, then, the artful manager might ask, “What is being made here? What is it made of? Who is doing the making?”

Seeking answers to these questions (instead of, “What is the problem to solve here?”) will lead to an examination of relationships among the different parts of the thing being made. “What are the parts to this thing? How do they fit together?” If these relationships feature interdependence, this situation could appear disorganized when approached with an industrial sensibility but could present differently and coherently to an artful sensibility.

Business as Making

It is hard to know what we see when we look at a complicated system because it will not hold still for analysis. We need a way to stop events in imagination, a calculus. One such calculus, useful when we conceive any process as making, distinguishes it into four principle elements:

A MAKER, who performs operations on

MATERIALS, changing them toward an emerging

FORM that they would not naturally achieve for a

PURPOSE that also emerges from the process and differs according to your point of view.

Let us look at a brief description of each of these.¹

Maker

A business system or a team project has many makers. First maker is the individual—you, for example. If you think of yourself as *making* an idea to bring to the meeting, you can consider the materials you use to do that. This will put you in position to make trackable changes in your thinking.

Second maker is each of the other team members, considered individually. Each functions as you do, making ideas from his or her own materials, offering those ideas as material for the third maker, and using others’ ideas as material for the next idea.

Third maker is the group (team, ensemble, system) itself, conceived as a whole greater than the sum of its parts. To achieve maximum flexibility, a group may take time during its process to remark on, or be aware of, its ways of working. This ensures that the group can make deliberate changes in method, in materials, or in the potential of an emerging form.

Materials

What “stuff” gets changed on its way to a form? If you are a sculptor, it might be stone. If you are a financial officer, it might be facts, figures, and your thoughts about them. These materials might be data from the past, projections for the future, instructions for intermediate processes, or even the dream you had. Anything is good material, as long as a maker takes the trouble to know what it is and what he or she can do with it.

Form

People often use this word to refer to a thing’s visual appearance. That is not enough. Form, in this conception, is the organizational principle of the made thing, its internal coherence as well as its appearance and functionality. This kind of making process begins in imagination with an idea for a form (either a thing or a function), and then the actual

thing (product, service, idea) emerges from the actions of producing it. In many cases, the work of making and the form that it makes are the same. A service, for instance, exists only as it is actually being made. In that case, the process of making *is* the thing made.

Theatre art is a good example here. A play (not a script) exists as you watch and listen; when it is over, there is no play left, except in your memory. This convergence of process and product is less obvious in business situations except when team members treat work as worth doing for its own sake. Then the dominant form, the thing made, becomes the event of making it; the residue left by this process may be a saleable product. That is, the team approaches the condition of an artist, working for the sake of the work and trusting that impeccable methods will yield valuable outcomes. One artist, who the Artful Making research team interviewed, told us that he left scratches and imperfections on his engraved plate; they were part of “the history of the event.” We saw the object as a static print on paper; he had a more interesting view. When he told us about it, we could take the more interesting view and our pleasure in the print (its value for us) increased accordingly.

In a productive collaboration, unpredictable form emerges from the work. More often than not, however, a person looking back at the making process will see that what emerged was inevitable.

Purpose

Why make this thing? Any object or service provides various answers to that question. In art, the thing itself, the emerging form, has the purpose of being beautiful, the best of its kind that it can be. Even the most austere artist, however, will have getting up the rent in the back of his or her mind: Can I sell this thing? Experience tells us that for most art, no one can predict the market; art-like business products and services such as movies and video games have this same characteristic (in technical terms, the returns across outcomes have a Pareto distribution with infinite variance, so point estimates—such as averages in forecasts—are of little use). Then, to add complexity, each person in a collaboration will have individual purposes that the process can accomplish. Because all the team members contribute to the final product, it may be difficult to assign a single purpose.

In most business situations, however, the overarching purpose to create value for customers, the firm, the stakeholders, and the general advantage exists. The four-pronged way of looking at making can help you avoid losing your way and prevent you from aiming at some predictably mediocre product rather than an innovation that can move you and the firm ahead.

Interdependency

To conceive a relationship of interdependency among all the elements of a process and its product marks the shift

from industrial to artful methods and thinking. Industrial work requires modularity, isolation of each part from every other, to avoid confusion and quality problems. An industrial sensibility sees interdependency as hopeless confusion and disorganization to be avoided at all costs. An artistic sensibility sees interdependency as the heart of any interesting process, as the source of potential novelty and value. We can look at it as two kinds of collaboration. First is the collaboration among the work team members. Each uses the work of the others as material: you bring an idea to the table, and instead of rejecting it or compromising with it, I use it in combination with my ideas to make the next idea. This continues back and forth. Second, as noted earlier, is the collaboration among the materials and functions themselves: if you change one, you change them all.

Iterative Process, Emergent Form

If maker and materials depend on one another, the outcome will, in turn, depend on their combination. In other words, the interaction among them will produce changes in the possible outcomes (form and purpose) of the making process. Artful organization directs iterative work toward a product organized by internal principles that emerge from the making process itself. This contrasts with the sequences of industrial systems that begin at carefully planned step one and move through carefully planned step *n*. Iterative work replaces planning with cheap and rapid *prototyping*. Each iteration forms a part of every one that follows and moves toward an emergent and often unpredictable outcome. Trilogy, an Austin, Texas, software firm, for instance, uses an iterative, prototyping-intensive process like the one depicted in Figure 48.2, to converge, over time, toward the moving target of what its customers really need (Austin & Devin, 2003).

Emergence derives from the interdependence among the parts of making, and the artful frame of mind sees this as evidence of collaboration. The parts of making can be conceived as collaborating with each other; this makes it sensible to propose collaboration as a complementary

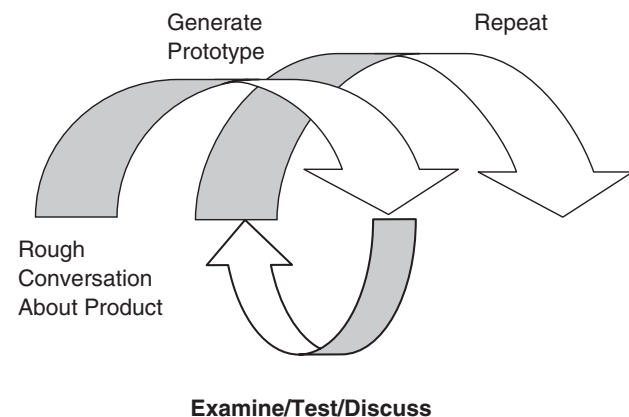


Figure 48.2 Trilogy's Software Development Process

method of relationship among the different members of a making group. Collaboration, the way artists mean it, naturally results in innovation. A collaborative process cannot achieve a preplanned goal because there is no telling what will emerge when the elements of the process and the members of the project interact.

In their making, artists prize evolutionary change; an original, unpredicted outcome emerges in a fairly orderly, step-by-step way. Scarily, but often more desirably, a process may include a quantum leap, a sudden innovation that is unpredictable but that, in hindsight, seems inevitable. Highly prized, but rare, some innovations and insights come along out of the blue, sometimes by sheer accident. Again, such work appears disorderly and retrograde to an industrial sensibility.

A collaborative work process can achieve general goals, such as making a new product or play, but not *specific* goals, because there is no telling what will happen when the elements of the process and the members of the project interact collaboratively. The artful sensibility reconceives goals into results—what happens as a result of the process. The art of play making provides a good example. The cast and director begin their work with a general notion of what their play is going to be when they get it made. They know, for instance, the words that characters will use, but the music of their saying will emerge in rehearsal. Their daily work refines and develops that general notion, often changing it beyond casual recognition. Rehearsal ends on a certain date. Because a play must be made anew for each performance, however, the work never ends until the run is over. In play making or product development, seeking a goal that is too specific is often a mistake because it prevents valuable results.

This feature of theatre art has its place in business—an increasingly important place as the world moves from a product economy to a service economy—for a service is like a play: It exists only while it is being made. The salesman cannot just punch a button and sell a car. He must consider all four aspects of his making and adjust each to the ever-changing situation that is his interaction with the customer. Each individual play or sale achieves closure, but the work of making plays and sales does not.

SOME IMPLICATIONS OF ARTISTIC SENSIBILITY AND METHODS

Approaching business in an artful frame of mind will give rise to considerations that might not apply to an industrial approach. Here are some of the ideas that emerge from the research in this area.

Failure

Emergent process has the interesting and useful result of forcing a reconceiving of the concept of failure. Failure, like innovation, has received renewed attention in business mag-

azines. “Fail often to succeed sooner,” a variously attributed maxim, captures well this new emphasis on failure as a means to valuable ends. In its very nature, an iterative process will include ideas and actions that do not, in themselves, constitute the final answer. Yet, each iteration in a process might be a necessary step on the way to closure. In climbing the stairs to the second floor, you would not regard step one as a failure because it did not get you to the top. Step one does not get you all the way there, but you will not get there without it. In this view, when we call a necessary step in a process a “failure,” we are torturing language, naming two contrasting things (a setback and a step forward) with the same word. Moreover, and perhaps even more important, each iteration, as material for the next, remains in the final product. It may not be visible, but it is there. That first step is an integral part of the last one, and the last one, in a collaboration, may well be wondrous.

External Variation, Accident

Much of our business training considers the ambiguity and uncertainty of emergent processes as unacceptable. How can we get anywhere if we do not know where we are going? The artful frame of mind requires a change in this way of thinking—a shift in your creative attention from making a perfect product to making an impeccable process. As soon as you agree to collaborate, to admit the interdependence of the elements of making or the ideas and efforts of the group members, you have said good-bye to any comfortable, plodding path of well-worn steps toward a foreseeable outcome.

In the 1830s, Louis Jacques Mande Daguerre was at work on what would become known as “photography.” One day he put a plate bearing a faint image into a cabinet, intending to clean and reuse it. When he fetched it several days later, he found the image greatly improved. He hypothesized that one or more vaporous chemicals stored in the cabinet had intensified the image.

He put new plates in the cabinet and removed the chemicals one by one. When all the chemicals had been removed, the images still intensified. He examined the cabinet and finally found a few drops of mercury spilled from a broken thermometer. He correctly concluded that mercury vapors caused the images to improve (Roberts, 1989) We see in this example interplay of intention and accident—iteration that includes both the intended and the unexpected—which becomes material capable of making value.

Any book on the history of discovery in science will include dozens of similar examples; any understanding of modern business practice will include an appreciation of accident and a high tolerance for the ambiguity of creative progress.

Control Through Release

Creative progress and interdependent work methods, and knowledge and service work in general, require management

techniques quite different from those developed to optimize industrial work. We have noted that the people who do knowledge work tend to be individualistic and self-motivated. It may be even more important that knowledge work managers often suffer a serious difficulty: The people they manage nearly always do things that the managers themselves cannot do.

This situation requires that managers create a confidence in their process and the capabilities of their work team members that may be difficult to sustain. The knowledge work under their supervision may appear to them formless and strange, disorganized, and even chaotic. They must learn to guide the teamwork not by restraint and rules, but by release and freedom from expectations. Control by release means aiming rather than restricting and encouraging rather than thwarting. Most of all, it means a willingness and skill to adapt an emergent novelty to the demands of the business situation. The creativity of managers escapes notice when they are bound by expectations and goals—when they drive their teams to preconceived outcomes and externally determined quotas. That creativity becomes essential when interdependence and collaboration throw preconceptions out the window and present something brand new.

Ambiguity

Much of business training considers this kind of ambiguity and uncertainty unacceptable. An artful sensibility, however, welcomes the creative opportunity of an open-ended project. Creative managers and knowledge workers shift their attention from making a perfect product to making an impeccable process. It is an article of faith that a good product will emerge from a good process. That faith requires an embrace of the inevitable ambiguity of creative process.

SOME USEFUL FEATURES OF ARTISTIC METHOD

The following are some brief descriptions of things to look for in an organization or process that appears disorganized, but that may instead be artfully managed.

An Emphasis on Preparation Over Planning

Artists can be preparation fanatics. Paul Robertson, leader of a world famous string quartet, told us,

A Beethoven quartet, for example, took 300 hours of ensemble rehearsal (not counting individual practice hours) from the moment they decided to start learning it to the first public performance. . . . For any really significant repertoire, I would expect a piece to take five to ten years before it really became something . . . I think of our concerts as rehearsals . . . opportunity to make a revision of opinion, because this performance is a preparation for the next one. (Austin & O'Donnell, 2007)

Plan so that you can do what you know you want to do. Avoid surprises. There is a need for planning in any work system. The trick is to know the place of that need and relegate planning to that place. The quartet's performances, for instance, took planning. Audience, running crew, and musicians showed up at the right place and time.

Prepare so that you can do whatever becomes necessary, such as responding productively to unpredicted inputs, surprising results, and new developments. Since each audience affects the performance differently, the quartet must be ready for anything. No two performances are alike for them.

Planners create conditions for others to work in. An artful manager plans the operation, makes a space for the work, staffs the project, and prepares to respond to what happens when the group sets to work. In some cases, the object is preconceived, a goal that must be met. In such a case, the manager keeps the group on task and avoids diversion of resources from the target. Some cases, however, require an innovation, something new under the sun. Then the manager releases the team to work toward outcomes no one has yet imagined.

Meanwhile, the project team prepares, individually and as a group, for the unpredictable process of collaborative iteration. This, to the industrial eye, will appear chaotic and counterproductive. An artful eye will pounce on unforeseen outcomes and put them to work in unpredictable ways.

A Distinction Between Problems and Difficulties

Knowledge work managers often realize that they need to rethink what they know about kinks in the system. Problems require a solution that makes them go away. Seeing problems traps managers and workers in a simplistic view of work and work processes. A complex system offers few solvable problems, errors, or glitches that will go away at the touch of a consultant's wand. Instead, a system routinely presents open-ended difficulties that will require constant and adaptive address for as long as the system operates and that, artfully viewed, can usually be reconceived as opportunities. The artful sensibility will be comfortable in this kind of ambiguity and will prepare itself to cope with whatever happens rather than get stuck with answers to questions no one is asking.

A Welcome for Serendipity and Accident

If you can plan it, how new can it be? The best source of new answers, of innovation generally, is collaboration. When people collaborate, work together, and use each others' ideas as material to develop their own, new things happen, no matter what. This can be troubling to the business side of a business: Innovation cannot be planned for or predicted. How do you make a budget for something you cannot predict? Almost no one likes this kind of ambiguity at first.

Think back to the story of Daguerre and his accidental discovery of mercury as an intensifier of images. In science, it has long been understood that many (some have said *most*) important advances are the result of accident. They come at us from left field, unannounced. The great scientists recognize them; ordinary ones do not. No one has any idea how many cultures of penicillin Arthur Fleming colonized before he noticed something weird and investigated to find something wonderful. Consider this story, told by August Kekule von Stradonitz, one of the founders of organic chemistry. He “discovered” the shape of the benzene molecule (a ring) in a troubled dream.

I turned my chair to the fire and dozed . . . the atoms were gamboling before my eyes . . . My mental eye, rendered more acute by repeated visions of the kind, could now distinguish larger structures of manifold conformation: long rows sometimes more closely fitted together all twining and twisting in snake-like motion. But look! What was that? One of the snakes had seized hold of its own tail, and the form whirled mockingly before my eyes. As if by a flash of lightning I awoke . . . and spent the rest of the night working out the consequences of the hypothesis. (Gratzer, 2002, pp. 10–11)

A shift from industrial to artful thinking welcomes serendipity and accident. Some artists arrange accidents to introduce variation and unpredictability. In theatre rehearsal, it is common practice for a director to arrange surprises for the actors, new conditions that will upset their preconceptions, result in new ideas, and lead toward more complex and interesting outcomes.

Real collaboration, of any kind, always produces surprises.

Form Over Content, Process Over Outcomes

Instead of asking, “What is going on here?” the artful sensibility asks, “What are the parts to this thing? How do they fit together?” The artful person notes the parts, with special attention to their arrangement, to the various ways they repeat as the process moves in time, and to the interdependent relationships among the different parts. Confronting a disorganized business process, an artful sensibility focuses not on the flawed product or the dysfunctional arrangements, but on the form—the relationships among elements of the process.

Increasingly, as knowledge work and a service economy become the business norm, process and product merge. For a service, obviously the two are the same: Making the service provides the service because providing the service requires making it each time. Indeed, the service does not exist except while you are making it.

In an artful, iterative process, the product emerges from the process, as does the process itself. We have seen emergence as a function of the interdependence among all the parts of making. Artful flexibility accepts and uses outcomes no matter how surprising.

Managing to Closure

In an iterative process, deciding on closure is nonobvious and often requires sophisticated judgment. A painter once told us, “I know the painting’s done when I have to think about the next brush stroke”; the simplicity of this statement conceals an underlying criterion for closure, the result of hard earned learning about how to avoid overworking a painting. This painter, we might also note, seems to have had no deadline or schedule. Such license rarely obtains in business. When there is a deadline, when the product must be ready by a certain date, a manager must carefully modulate the rate of progress. The artful manager wants to complete the project in time, but not too early. In innovative work, finishing too soon risks leaving opportunity unexplored and perhaps missing that killer app or feature that makes all the (commercial) difference. Here, good management consists in a careful blend of planning and preparation: planning to bring all the elements of a complex project together in the proper order and at just the right moment; preparation to cope with all the vagaries and emergencies such a process will not fail to present.

An Inclination to “Collect” Things

The writer, crouched in the corner scribbling in his notebook, is a familiar denizen of fiction and report. No telling what she is jotting down, and she herself has no idea where or when she will put this item in a book or poem. Artists tend to collect ideas, impressions, and materials at random on the basis of a kind of freestanding interestingness. Almost every studio we have toured has piles and shelves filled with random stuff. “Well, it might come in handy someday.” This is true as well, to a greater or lesser extent, of design firms, product development organizations, and other groups that businesses count on to innovate. This way of collecting is different from the prevailing notion of saving valuable “content” that we find at work in most business activities, one that focuses on efficient storage and retrieval for the purpose of “reusing” things in specific ways. A reuse ethic aims to prevent companies from “reinventing the wheel.” Artful collection, intended to stimulate invention, is about keeping things that will inspire new thoughts, not applying already developed thoughts. Interestingly, artful collection avoids too-efficient organization of materials because artful collectors value the experience of searching through many interesting things on the way to finding something that they are looking for. Some innovators have told us about finding something valuable while they are looking for something else. In fact, they may never locate the object of the original search.

A Sophisticated Idea About Relationships With “Customers”

The first level judgment of value in business comes from the market: Do people buy it? This fact leads naturally to

the idea of giving customers what they want, which, in turn, leads to seeking out what customers need or want via market surveys, focus groups, and so forth. Despite the inherent appeal of finding out what customers want, then satisfying them by giving it to them, the situation becomes more complicated when we create value with entirely new outcomes.

At Bang & Olufsen, makers of high-end consumer electronic products (telephones, televisions, loudspeakers, etc.), the chief designer specifically avoids customer input. He takes the position that customers only want what they know, and that he designs things they cannot know until he shows them. Customers asked what they want, he suggests, will ask for something that is already on the market or that is a minor extension of something on the market. For some kinds of businesses, this may be just fine. But for Bang & Olufsen, which charges very high prices for very classy products, just satisfying the customer with an incremental improvement will not do. Value criteria based on “what customers want” cannot create anything entirely new. One possible substitute for asking customers, then, might be artistic criteria. Artists create value that arises from how well the interdependent parts fit together, not some external reference such as what the customer said. In innovation processes, we must have some way of working toward value that is not externally determined. Knowledge workers, as we have noted, have a strong tendency to value work and work products for their own sake and for the satisfaction they provide the makers.

For artful, collaborative making, in business or elsewhere, a sense of the work as valuable for its own sake, as worth doing regardless of the eventual outcome, is probably essential. If we do not know the outcome, how can we take satisfaction in it? Only by valuing the process itself will we find satisfaction. In this sense, modern knowledge workers point us back to the past to a time when craft identified and defined a person as a Smith, a Miller, a Fuller, and so on.

CONCLUSION

The following is a list of some characteristics of an artful sensibility, gathered from research and this discussion. Used as tools to observe and analyze an organization that appears disorganized, these notions can help managers understand the form of the process they are looking at and lead them to suggest steps that a disorganization can take to repair itself:

- Willingness to entertain emergent goals
- Product as an emergent result, not a predetermined goal
- Ability to grok forms large and small
- Recognition that form is based on internal principles, not results
- Emphasis on internal principles of unity and form
- Recognition of a difference between problems and difficulties

- Comfort with difficulties
- Comfort in ambiguity
- Willingness to exploit serendipity
- Understanding that collaboration equals innovation
- Project teams collaborate with each other and with an emerging form
- Willingness of groups to create an ensemble
- Willingness to treat the work as important for its own sake
- Closure as determined by judgment and internal principles

NOTE

1. These elements are traceable to Aristotle (330 BCE/1997).

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ORGANIZATIONAL SECURITY

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This chapter explores the gap between organizational processes and security design. It starts with a presentation stressing the need for improved security in the corporation. Organizational processes such as work design, creativity, innovation, culture, learning, and change are considered in organizational design. The way the organization is designed and coordinated leads to the ability to reach its goals. Many factors influence the behavior and performance of the organization including the context, purpose, people, and structure as they interface with the core transformation and management support processes to set the organization's performance level.

Most everything of tangible value in today's society (and many intangibles as well) is stored in digital form somewhere. Without the knowledge to defend our digital assets, we are lost, and our potential loss grows larger everyday as we pour the contents of our lives into databases, PDAs, personal computers, and Web servers through routers, hubs, switches, cell phones, gateways, copper, coax, and the air itself. The need for security has existed since introducing the first computer. The paradigm has shifted in recent years, though, from terminal server mainframe systems, to client/server systems, to the widely distributed Internet (Wylder, 2004).

Although security is important, it has not always been critical to a company's success. With a mainframe system, the firm protected their systems from resource abuse such as authorized users hogging resources or unauthorized users gaining access and using spare resources. Such abuse was damaging because system resources were costly in the early days of mainframes. As technology developed and the cost of system resources decreased, this issue became less important. Remote access to systems outside a company's

network was almost nonexistent. Moreover, only the underground community had the knowledge and tools needed to compromise a mainframe system.

Client/server technology developments led to a myriad of new security problems. Processor utilization was not a priority, but access to networks, systems, and files grew in importance. Access control became a priority as sensitive information such as human resources and payroll was being stored on public file servers. Companies did not want such data to be public knowledge, even to their employees, so new technologies such as granular access control, single sign-on, and data encryption were developed. As always, methods of circumventing and exploiting these new applications and security products quickly arose. During the client/server era, access into the corporate network was usually through a few dial-up accounts. This did open some security holes, but the risk to these accounts could be easily mitigated with procedures such as dial back and access lists. Branch offices communicated with one another over dedicated leased lines.

Then came the Internet—the open access worldwide network—and everything changed. The growth of e-mail and the World Wide Web soon led companies to provide Internet access to their employees. Developing an e-business initiative for your company became critical to stay competitive in the changing marketplace. With the rising use of the Internet, information including security information became accessible to the general public. Because the Internet is a public network, anyone on the Net can see other systems on it. As use of the Internet grew, companies started to allow more access to information and networks over the Internet. This approach, although beneficial for business, was inviting to attackers.

Recent events have led information security to become a significant focus in the way an organization conducts its business. Most businesses today have at least a rudimentary security program in place, and many programs are developing and growing in maturity. As these programs have grown, so has the need to move beyond the view that security is just a technical issue. Security today should be combined with the fabric of a business. In doing so, information security programs need to move from tactical implementations of technology to strategic partners in business (Wylder, 2004). Although companies were committed to developing a comprehensive information security program, they may not have integrated them into the framework of their businesses.

THE CASE FOR INFORMATION SECURITY SCRUTINY

Data in an information technology (IT) system is at risk from various sources—user errors and malicious and non-malicious attacks. Accidents can occur, and attackers can gain access to the system and can disrupt services, make systems useless, or change, delete, or steal information. Some companies have taken an enlightened view of security. They believe that, to be successful, they must show their customers that security and protecting information assets are a core business function. Security by design means that it is not an afterthought in the design process; instead, it is one of the requirements that designers use when starting a project. Secure in deployment means that products will be shipped and ready to use in a way that will not compromise the security of the customer or other products.

In the broadest definition, an information security program is a plan to mitigate risks associated with the processing of information. The security profession (Bensen, 2006) has defined the basics of security as three elements:

1. *Confidentiality.* Confidentiality is preventing unauthorized use or disclosure of information. The system contains information that calls for protection from unauthorized disclosure. Examples include timed dissemination information (e.g., interim financial statements, personal information, and proprietary business information). Privacy is a closely related topic that has lately been getting more visibility.
2. *Integrity.* Integrity is ensuring that information is accurate and complete and that it has not been modified by unauthorized users or processes. The system contains information that must be protected from unauthorized, unanticipated, or unintentional modification. Examples include survey reports, economic indicators, or financial transactions systems.
3. *Availability.* Availability is ensuring that users have timely and reliable access to their information assets. The system contains information or provides services that must be available on a timely basis to meet mission requirements or to avoid substantial losses. Examples include online

accessibility of business records, systems critical to safety, life support, and hurricane forecasting.

These three elements are the basics around which all security programs are developed. The three concepts are linked together in information protection. The idea that information is an asset that calls for protection, just like other asset of the business, is basic to understanding these concepts.

Ernst and Young Computer Security Institute conducts an annual study on Global Information Security. In Ernst and Young's 2002 study, 90% of respondents (large corporations and government agencies) detected computer security breaches; 70% reported a variety of serious computer security breaches except the most common ones of computer viruses, laptop theft, or employee "Net abuse"; 80% acknowledged financial losses caused by computer breaches; and 44% were willing and able to quantify their financial losses. The losses from these 223 respondents totaled \$455,848,000; the most serious financial losses occurred through theft of proprietary information (26 respondents reported \$170,827,000) and financial fraud (25 respondents reported \$115,753,000). Progressing over the previous 5 years, more respondents (74%) cited their Internet connection as a frequent point of attack than those who cited their internal systems as a frequent point of attack (33%).

According to Jacques (2007), by mid-2006, reports of security breaches in the United States were numbering between 8 and 10 a week. To date, almost 94 million records containing sensitive personal information have been involved in security breaches. Another author addresses supplier interfaces as firms move to partnering and extranets (Williams, 2006) by noting that some 55% of firms are leaving themselves vulnerable to attack by failing to ensure the security credentials of third-party suppliers.

Other factors dealing with the loss of customer data (PGP Analyst Report, 2006) documents the high costs that result when companies lose customer data. Lost or stolen customer information cost surveyed companies as much as \$22 million. The average cost for each lost customer record was \$186. Incremental expenditures averaged \$1.4 million for each incident. When a regulatory breach occurs, organizations must notify all affected customers, try to reduce downstream brand consequences, and put solutions in place to prevent a recurrence. Despite these consequences, new breaches are reported every week. Though security best practices dictate preventive technical solutions, most companies have not yet put such protections in place.

The 2004 Ernst and Young Global Information Security Survey found that, although company leaders are increasingly aware of the risks posed to their information security by people in their organizations, they are not acting on this knowledge. More than 70% of the 1,233 organizations—representing some of the leading companies in 51 countries—failed to list training and raising employee awareness of information security issues as a top initiative. (Ernst and Young, 2004)

As organizations move toward increasingly decentralized business models through outsourcing and other external partnerships, it becomes ever more difficult for them to retain control over the security of their information and for senior management to comprehend the risk to which they are exposed. The Ernst and Young surveys suggest that organizations continue to remain focused on external threats such as viruses, while internal threats are consistently understressed. Companies will readily commit to technology purchases such as firewalls and virus protection but are hesitant to assign priority to human capital.

Companies that are expanding into new markets and that are deploying operations in rapidly emerging economies face exponentially greater business risk including risk to vital corporate and customer information. Today's huge opportunity can quickly become tomorrow's nightmare—if the nightmare involves loss or corruption of company information, theft of trade secrets, exposure of customer information, or infiltration of systems (Global Information Survey, 2006).

ORGANIZATION PROCESSES AND SECURITY CONSIDERATIONS

Understanding and managing organizational processes such as work design, redesign, creativity, innovation, culture, learning, and change seems to absorb a significant time and energy in today's business environment. Some managers argue that in reality their job almost entirely consists of managing change (Shani & Lau, 2005). Change comes about in many ways. The chapter introduction described the changing face of information commerce among organizations based on introducing information communication technologies. These technologies have changed the way we work; they have altered the cultures within our firms.

The way the organization is designed and coordinated has major effect on the organization's ability to reach its goals. Many factors influence the behavior and performance of the organization. These elements, as shown in Figure 49.1, can be grouped into six categories: the context,

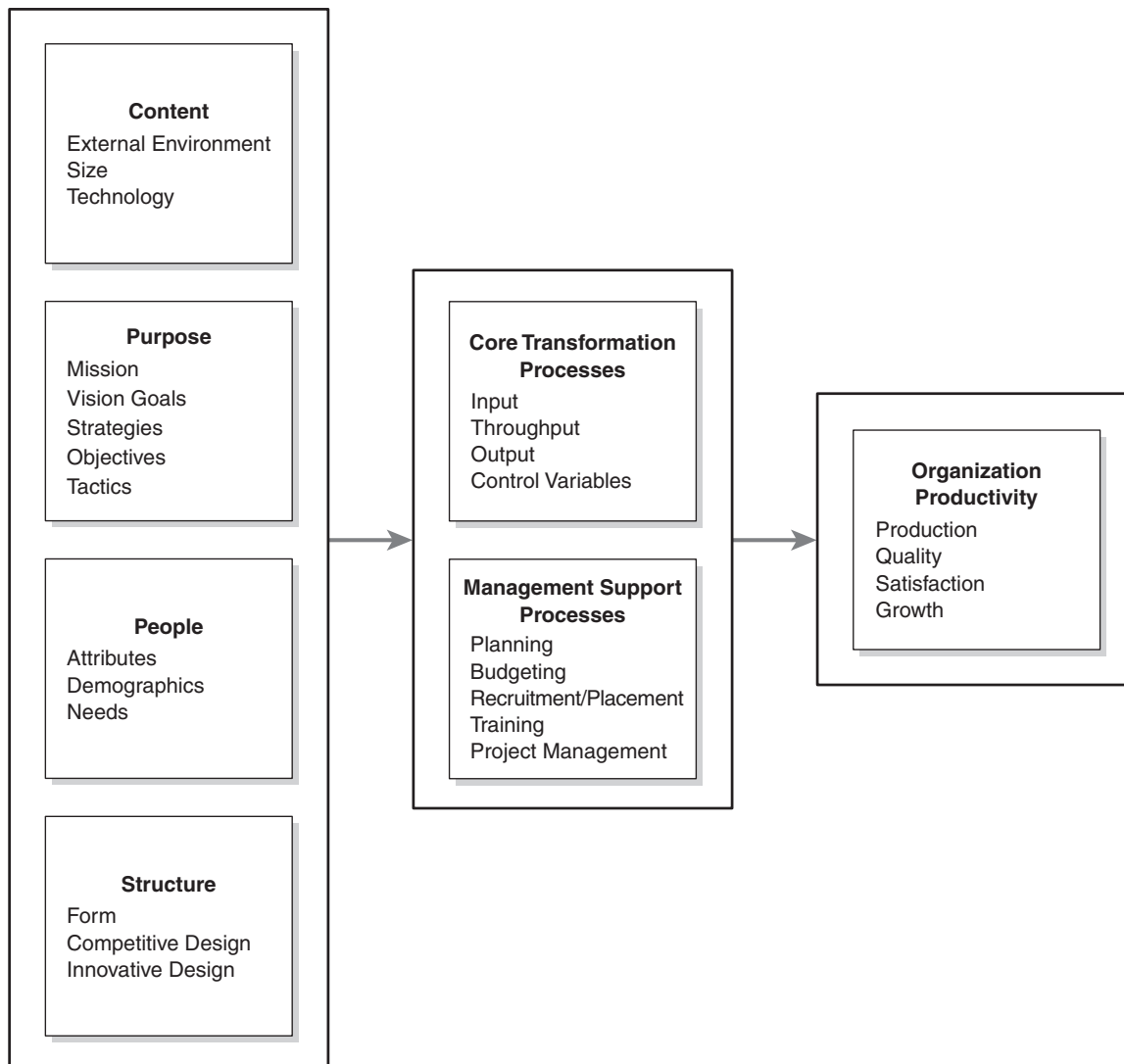


Figure 49.1 Organizational Performance Factors

purpose, people, structure interface with the core transformation processes, and management support processes to set the organization's performance level. All factors are affected by security.

These factors, given that their security is properly addressed, lead to the ongoing success of the organization. Figure 49.2 shows those parts of the categories that are most affected by security considerations.

Most organizational knowledge is stored in digital form "somewhere" in the vast array of corporate data base systems. Beyond these formal corporate mechanisms are data stored in a wide variety of places and media. A company often has data stored on the workstations of all workers in and beyond the boundaries of the company. Work group and collaboration teams have data stored on local and virtual networks. Communication occurs in a wide variety of modes such as e-mail, messaging, voice mail, the telephone, and direct contact. Most of these data sources can also be saved in digital form—the company's digital assets.

Context

Context refers to the entire organization including size, technology, and environment. Contextual dimensions affect the other categories such as structure, work processes, and ultimately, organization performance. The environment has a two-tier perspective: the task environment and the global environment. The task environment consists of the firm's immediate relevant environment such as all customers, suppliers (of labor, knowledge, information, money, materials, etc.), markets, competitors, regulators, and associations that are relevant to the business' current services and products. The global environment includes all the other possible environmental factors in which the organization functions such as political, educational, economy, demographic characteristics, societal structure, laws, and the many global impacts of doing business today.

Technology tools are the instruments, models, techniques, and processes that transform and support the business prod-

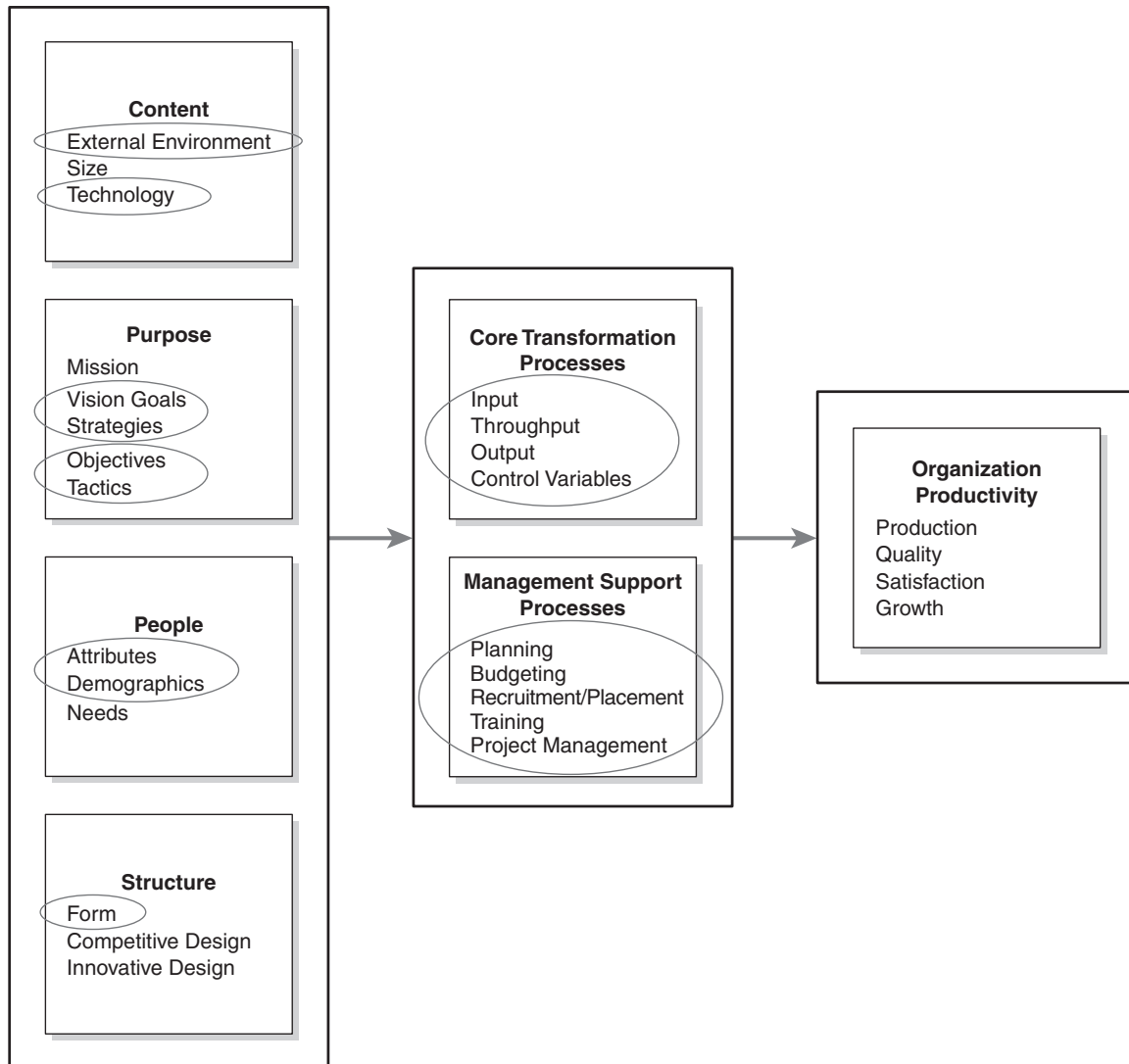


Figure 49.2 Security Considerations

ucts and service. These tools are embedded in all business levels. They not only are part of the business, but they also emanate externally through social networks, the customer, and supply-chain interfaces to the outside world.

The Internet was introduced earlier in the chapter; its opportunities are almost unlimited and challenging from a company perspective. Most of the primary tasks of doing business across the network have been addressed. But commerce and communication through the Internet continues to be a major security threat. Viruses and other external threats have and continue to shut down entire systems of electronic communication in and among organizations, records in databases are compromised, and private, delicate communications become not as private. The global environment and the choice of technology are intertwined.

Purpose

In defining purpose, we consider how the organization interprets the environment to develop statements of mission, vision, goals, strategies, objectives, and tactics. Although the firm's mission may change slowly, important signals to employees are gained from formal communications from management about goals and priorities. Most business organizations have strategic plans that incorporate IT. Oftentimes, though, the IT part does not include a security plan. Instead, security is assumed to be in the IT infrastructure.

Strategically, executive management needs to be certain that all external and internal threats have been addressed through an information security plan and policy. The portal to the outside world is most often a series of defenses such as an outer firewall, an intermediate area in between to filter Internet traffic, and another firewall to control the liaisons between the company and the outside world. The next step is to verify that the operations in the organization have security measures in place. Decisions for grouping users and providing access rights and the ability to modify critical data are most often delegated to a security specialist. This specialist most likely does not view the workings of the organization in a macro sense, and he or she most likely is not vested with the authority or knowledge to align the corporate structure with the security structure.

People

Organizations have members with diverse attributes, demographic characteristics, and needs. Attributes include knowledge, skills, abilities, learning styles, and problem-solving styles. In many organizations, the collective knowledge sharing and learning becomes an organizational capability that is difficult for other companies to duplicate. Demographic characteristics are also important in building capabilities and improving organizational performance. Moreover, if organizations are to thrive, they must address employee needs, so employee satisfaction is potentially as important as the satisfaction of other stakeholders.

As companies are confronted with global competition, e-commerce, industry consolidation, new partnerships and alliances, and the like, there is a higher need for more internal and external coordination and collaboration. In this context, decisions are often made on a decentralized basis by teams that can use the best information at hand. One answer is a shift toward viewing the organization as "teams of teams" or the team-based organization (S. A. Mohrman, Cohen, & A. M. Mohrman, 1995).

The first line of defense is the individual worker. Most companies have in place a security system for the desktop and its interface to the corporate system either directly or through some form of local area network. The typical organization has PC-based workstations—most of which use Microsoft products. Microsoft and other end user software products provide the means to control the deployment of each workstation through user identification, rights, permissions, and access control lists. These controls are extended to the local and corporate environment in which the workstations are housed.

There is no substitute for employee awareness, *the social aspect*, and commitment to adhere to and to support the company's security policy. Over two thirds of all security breaches occur from inside the organization. Attacker's motives emanate from a variety of reasons. One reason may be employee resentment where an employee harbors feelings of mistreatment by the company and that the company owes them in some way. There are instances of the internal hacker or the just curious testing their skills by trying to gain unauthorized access not for revenge but just to experiment. Many workers have the ability to bypass the physical and logical controls put in place to protect the perimeter of the company's network and have obtained credentials to access a significant part of its infrastructure. As no company can exist without employees, it is the inevitable reality that some individuals are potential security risks. People will always be susceptible to manipulation, but it is possible to combat this to an extent with proper training and awareness along with other security measures.

Employees are the most difficult part of security management to address and control. Security policies do not always follow the chain of command or the formal/informal systems of communication. There is, often, a lack of support or conflict over the enforcement and enactment of security policies. Sometimes the security manager will try to enforce policies for all without trying to temper enforcement with judgment. Enforcement to the security manager includes penalizing the people who break the rules. Other managers look at security policies the same way they look at all policies and weigh the punishment with the crime. Access control violations are compared to violations of accounting policy and the myriad of other rules that exist in the workplace today. Executive management has to weigh all types of policies with the other goals and objectives of the business. This is not too different from the security manager's decisions about access controls and authorization. The security manager has to weigh the need to know

against the want to know, where the line always calls for greater access to information than the former. The convergence of the executive manager and the security manager decisions is in the balancing of their goals and objectives. One way to improve communication between the executive team and the security area is to link decisions to find common goals and objectives and then work on disagreements.

Organizations invest heavily in the latest firewalls, intrusion detection systems, and other advanced security technologies, yet losses from security incidents continue to grow each year (Gunther, 2004). The problem is not so much with security technology as it is with the lack of security awareness among users. All too often information security professionals have to deal with breaches caused by users opening an e-mail attachment with a virus that reproduces itself across the enterprise, forgetting to back up critical files, using weak passwords, losing laptops with confidential data, or being tricked into giving up their passwords through social engineering techniques. Security experts acknowledge that an organization's first line of defense is the frontline employees who interact with customers, process their information, and pass it along to others in the delivery chain. Most discussions of security and privacy compliance mention that successful initiatives need sweeping cultural changes including changes in operational processes and behaviors.

Structure

The term *structure* has many meanings. Research studies on organizations have identified structural variables such as levels in the hierarchy, formalization (the written documentation, as in policies, procedures manuals, job descriptions, etc.), standardization (the extent to which activities must be performed in a uniform way), and centralization (at what decision levels). Form of structure refers to the method of grouping employees together into work units, departments, and the organization.

As the organization grows, differentiation of specialty units occurs, with managers appointed for each unit. Functional organizations tend to be efficient and work well when the business situation and outside environment are stable. Employees then take on increasingly complicated tasks and grow through special assignments and applications of their skills. On the negative side, people in functional organizations often develop parochial viewpoints, and interdepartmental cooperation can be poor. Department goals often differ, and decisions are often pushed up the hierarchy, slowing deliberations and blocking needed changes. As the company's products and customers expand, other forms of structure may appear more attractive to top management.

With rising company size, product divisions or other self-contained units are often created to replace the functional organization. With greater diversification of products and greater diversification in customers and markets served, a company may choose to reorganize according to its major products. When this occurs, each product group gains

discretion to design, produce, and distribute its products in ways that are consistent with the competitive environment. If the new product groups are organized in the same basic way (research and development [R&D], manufacturing, accounting, and marketing), it can be argued that nothing new has occurred. The product groups still appear functional, and people may behave in the same ways. If the structure and support processes change to stress multispecialty teams or other forms of teamwork, a truly new form might exist.

Security assumes several new dimensions when local area networks (LANs) or wide area network (WANs) are introduced. This second line of defense includes the tools provided by Microsoft for their workstations and LAN and the network security provisions provided by Cisco-level measures (Cisco Inc. being the primary provider of WAN and Internet hardware and software). As the workstations are connected to routers and switches, each interface can be individually controlled to allow access based on the user, the type of protocol being used, and the network or subnetwork of origin or destination. It is more difficult to compromise such measures.

There are three logical (and possibly physical) parts to the corporate network infrastructure—intranet, extranet, and internet. Each of these parts are separated/isolated/protected by/from some form of firewall. The intranet is the secure layer where the internal operations of the company are conducted. The extranet is the less secure layer where the company conducts its commerce with its partners along the supply chain. The Internet is the unsecured environment where the company communicates with the business world and the general consumer.

With Internet use, information sometimes including security information becomes accessible to the public. Because the Internet is a public network, anyone on the Net could potentially see other systems. At first, this was not a major issue because sensitive information was not easily accessible. As use of the Internet grew, companies permitted access to information and networks over the Internet.

Core Transformation Process

The core transformation process is the conversion process turning inputs into output. Looking at it from a strictly technical systems view input combined with technology produces "throughput" or "product-in-becoming" (Taylor & Felten, 1993). Throughput is the state of the product at an earlier stage of development. Management and employees must apply technology and control variances so that the core transformation process is sound. Security is endemic in the core transformation process. At every stage, measures must be in place to insure that the customer orders are received; that the billing information is secured; and that communications with vendors for purchases, processing of the orders, and the distribution and collection are assured. The means to secure (authenticated) transaction has been addressed in many systems and is provided by software vendors and the communication industry. It is

the responsibility of each company to insure that they have incorporated these features into their internal systems.

Management Support Processes

Form of structure alone is not enough to coordinate and meet the needs of a thriving enterprise. Companies invest considerable time and resources in setting up processes that support the typical core activities of new product development, sales, order fulfillment, and customer service. Management support processes vary with the enterprise but include planning, budgeting, quality management, recruitment, placement, training, project management, and other valued processes. Decisions to build staff support departments and processes usually follow strategy and core transformation decisions. That is, investment in management support is justified if the purpose, core transformation processes, and structure call for capabilities to meet requirements of the business and industry.

Before, companies often chose to centralize management support groups at the corporate level. Staff members were then deployed to provide support or needed corporate controls. Often, the reaction from lower management was negative, as staff personnel demanded time and resources in carrying out their roles in divisions and departments of the company. The staff members too often carried the corporate perspective of control to true service and support to managers and employees in the field. Today, the situation is much improved in most corporations because of two developments in organization design. First, corporations have experienced waves of downsizing as a strategic move and as a way to cut costs. Often, there are fewer, smaller corporate staff work units and service groups. A second development in organization design is physical location of staff groups. When service groups are located with operations groups, there is a greater sense of cooperation, teamwork, and identity with operations managers and work teams. Under *distributed organization*, divisions and departments are encouraged to develop support groups that are close to the real operations action. For example, rather than locate a corporatewide IT group at headquarters, in a multidivision firm, one division might have such a group to serve its own needs and to serve all other company divisions. When this idea is extended to other staff support groups, a situation emerges where divisions help each other and bring in new ideas, methods, and technologies to improve operations throughout the company.

Management may view their information systems infrastructure as an inevitable evil rather than as a critical business process (Cassidy, 1998). Many times, this is attributable to a lack of understanding and communication. Information systems are expensive assets for a company. Management must clearly understand their information systems environment to manage this asset as they would other business assets. The planning process will significantly improve the communication between management and information systems. Management hopes to gain a better understanding of their current systems and to identify potential risks and

opportunities. Information systems will better understand the business direction and the role of technology.

The information systems direction must align with business drivers and must conform to boundary conditions imposed by the business environment. Boundary conditions may limit what can be done. Information is a valuable resource, and it is important to raise its value for the corporation. Planning and managing the information flow throughout the organization can reduce labor, data redundancy, and inconsistency besides raising the quality and accuracy of the information.

Developing systems that provide the business with a competitive advantage must be the focus rather than simply satisfying the wheel that squeaks the loudest. Some information systems managers are efficient in developing a strategic plan by taking their top computer technicians and outlining the technical architecture of the future. When these technicians finish their planning, they may have an ideal technical plan, but one that management may not totally understand let alone approve. These plans tend to accumulate dust on someone's bookshelf and never affect the direction of information systems or the business. The plan must show management ideas, styles, and objectives. To be successful, the entire organization must support the information systems objectives.

As the business environment becomes more dynamic and volatile, the technology planning process must be more flexible and responsive. The planning process should not be too rigid or formal. It should provide the opportunity for many face-to-face meetings between the important participants. Structure for the process should provide well-defined forums for interaction rather than rigidly specified planning documents. Perhaps a better mechanism for delivering the work of planning teams is for the line manager to present the departmental IT plan periodically to other senior managers, the CIO, and to members of his own staff.

A SOLUTIONS FRAMEWORK

Identifying Assets and Vulnerabilities to Known Threats

Assessing an organization's security needs also includes finding out its vulnerabilities to known threats. This assessment entails recognizing the types of assets that an organization has, which will suggest the types of threats it needs to protect itself against. Figure 49.3 depicts a security strategy methodology (Bensen, 2006) entailing proactive and reactive strategies.

Identifying Likely Attack Methods, Tools, and Techniques

The first step is to find out the attacks that can be expected and ways of defending against these attacks. It is impossible to prepare against all attacks and, therefore, prepare

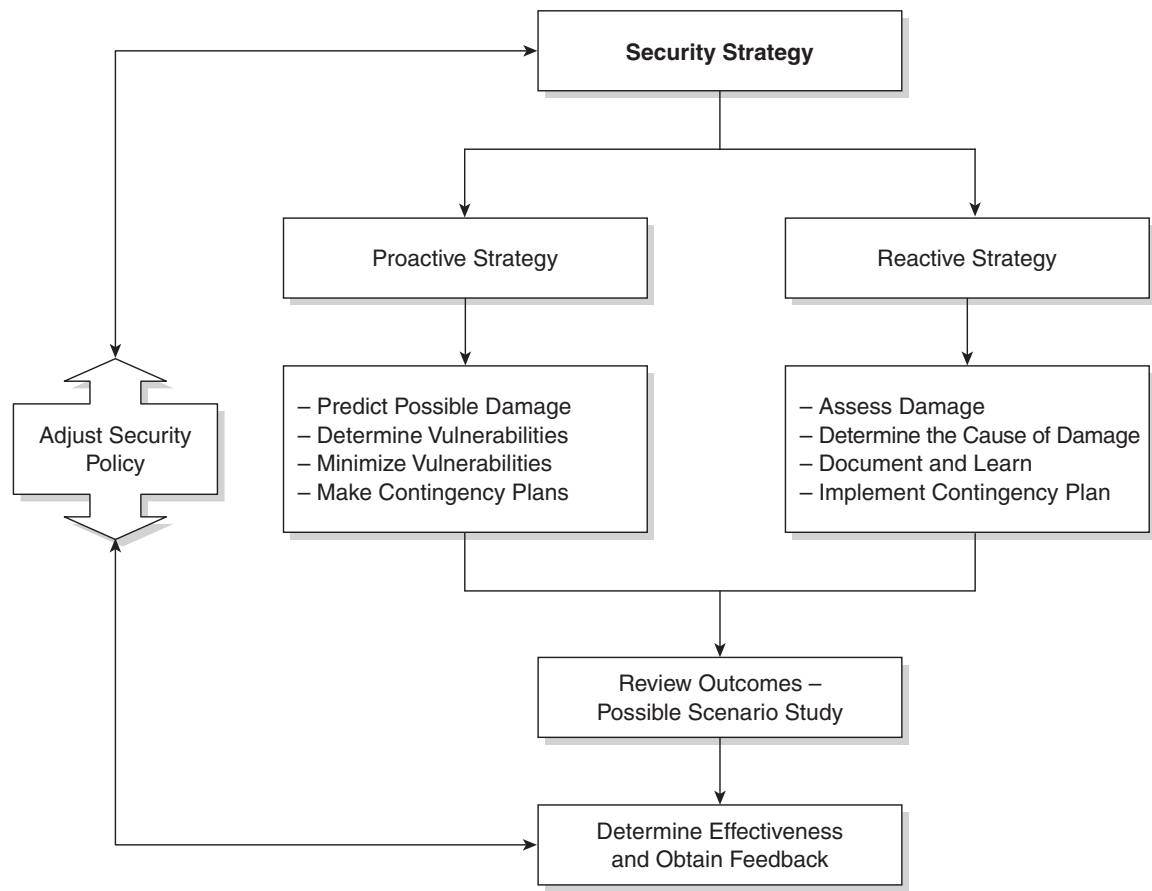


Figure 49.3 Methodology for Defining Security Strategy

for the most likely attacks that the organization can expect. It is always better to prevent or minimize attacks than it is to repair the damage after an attack has already occurred.

To reduce attacks, the various threats that cause risks to systems, the corresponding techniques that can be used to compromise security controls, and the vulnerabilities that exist in the security policies need to be understood. Understanding these three parts of attacks helps us to predict their occurrence, if not their timing or location. Predicting an attack is a matter of predicting its likelihood, which depends on understanding its various aspects. The various aspects of an attack can be shown in an equation: threats + motives + tools and techniques + vulnerabilities = attack.

Setting Proactive and Reactive Strategies

The proactive or preattack strategy consists of steps to address current security policy vulnerabilities and develop contingency plans. Assessing the damage that an attack will cause on a system and the weaknesses and vulnerabilities exploited during this attack helps in developing the proactive strategy.

The reactive strategy or postattack strategy helps security personnel to assess the damage caused by the attack, repair the damage or put into effect the contingency plan

developed in the proactive strategy, document and learn from the experience, and get business functions running as soon as possible.

Reviewing the Outcomes and Possible Scenario Study

Reviewing the outcomes after the reactive and proactive strategies have been put into place is the next step. Creating scenarios for what-if alternatives to simulate attacks helps to assess where the various vulnerabilities exist and adjust security policies and controls. The scenarios provide information without having to perform live production system because the outcome could be disastrous. If possible, all attack scenarios should be physically tested and documented to find the best possible security policies and controls to be put into effect. Attacks such as natural disasters like floods and lightning cannot be tested, although a simulation will help. For example, simulated fire in the server room has resulted in all the servers being damaged and lost. This scenario can be useful for testing the responsiveness of administrators and security personnel and for ascertaining how long it will take to get the organization functional again. Testing and adjusting security policies and controls based on scenario examinations is an iterative process. It is never

finished and should be evaluated and revised periodically so that improvements can be put into effect.

Contingency Planning

A contingency plan looks at alternatives that should be developed in case an attack penetrates the system and damages data or other assets with the result of halting normal business operations and hurting productivity. The plan is followed if the system cannot be restored in a timely way. Its ultimate goal is to maintain the availability, integrity, and confidentiality of data.

There should be a plan for each type of attack and threat. Each plan consists of steps to take if an attack breaks through the security policies. The contingency plan should address *who* must do *what* and *where* to keep the organization operating. This assumes that the current emergency response procedures and their effects have been evaluated—noting the extent to which they are adequate to limit damage and reduce the attack's impact on the organization's operations.

CONCLUSIONS AND FUTURE DIRECTIONS

Security as a Competitive Edge

A properly implemented security infrastructure (Andres, 2004) can become a competitive advantage, providing protection to corporate assets that set the company except for its competitors. If a company's main competitor is looking to launch e-business initiatives, the company with the stronger security infrastructure will be more successful. Why? First, the company with the weaker security infrastructure might be more reluctant to launch e-business projects because it is concerned with security and does not know how to protect itself adequately. Second, and more commonly, the weaker company will ignore the security aspect of online business and then wonder why it suffered a successful attack against its systems. This inattention could lead to the compromise of critical sensitive data—maybe customer credit cards or business bank account numbers—and the subsequent loss of customers. The company with the stronger security environment can more safely launch an online business initiative, knowing that its corporate security infrastructure is strong enough to protect it. If its systems do happen to be compromised, the business response plan in place should lower the damage.

Management Buy-In

Security programs should involve all aspects of the organization. Management support and organization buy-in are key to the success of a security infrastructure. A program works best when it is built around a framework of estab-

lished policies, standards, and procedures. If put into effect properly, a security infrastructure will help curtail practices that seem to have become the norm in most organizations such as employees writing down passwords on notepaper and storing the notes under their keyboards or mouse pads. It can also stop social engineering and physical attacks such as fake help desk calls asking to reset passwords or dumpster diving. A comprehensive security program also must address business partners who create potential security breaches by improperly securing their own networks and systems, leaving them as backdoors into your network.

Recognition That Security Is Key to the Business

The inexorable drive of companies to lower costs and raise productivity has entailed raised reliance on the Internet. Information security is a pervasive concern for all companies, not simply those that rely to a varying extent on the Internet to conduct business. An accurate gauge (Raval, 2003) of losses resulting from IT security incidents needs to be established. Given the tight corporate budgets, IT managers, risk managers, and finance policy makers need reliable quantitative estimates on enterprise IT security.

Studies (e.g., Raval, 2003) have shown that IT can be a major source of productivity gains. The results are likely to be variable, depending on the specific IT investment at the firm level. Productivity improvements often arise from competitive pressures, which lead to process innovations, some of which involve deployment of IT. If IT investment is not for a business process innovation, chances are that little gain in productivity can be anticipated or will occur.

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