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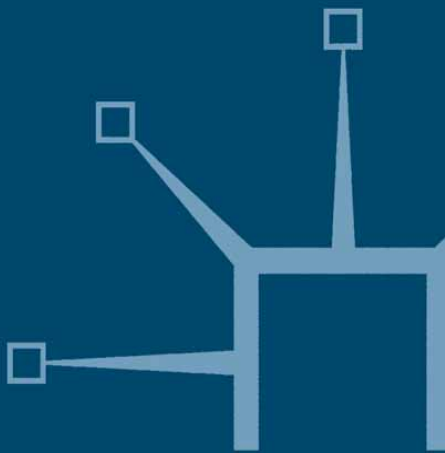
People – The New Asset on the Balance Sheet

Joseph A. DiVanna
and Jay Rogers



People – The New Asset on the Balance Sheet

People – The New Asset on the Balance Sheet is the second in a series of books by Joseph DiVanna and others in the **Corporations in the Global Economy** series. The books in this series cover a variety of topics, including thinking strategically, managing the process of a global business, technology's return on investment, corporate innovation and business molecularity. The first title is:

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REDEFINING FINANCIAL SERVICES
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SYNCONOMY
THE FUTURE OF RETAIL BANKING

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*To **Roy Frangione** an IBM veteran, who was the embodiment of a thought leader and thought partner, and whose untimely death was indeed a loss to all of us, to my wife **Isabel** who is always ready to comment on the many versions of the manuscript without getting grey hairs, and to my sons **Frank** and **Leo**, who are my inspiration.*

JOE DIVANNA

*To **Lisa**, who leavens the process of writing with welcome musings and merriment.*

JAY ROGERS

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Contents

List of Figures and Tables

Figures

Tables

Preamble

Since the mid-nineteenth century, businesses have been hard-pressed to measure the value of tangible assets and the capital allocations required to make intangible assets produce measured return on investment. The industrial age saw a dramatic increase in the scale and complexity of obtaining raw resources such as metal ore, textiles or chemicals and then manufacturing them into finished goods. Consequently, the need for ways to track the increase in value as raw resources moved through discovery, refining, manufacturing and distribution spurred organizations to standardize accounting practices. Over time, accounting practices have matured, mirroring the process which they were designed to track. As for people, the cost of employee wages were generally considered a sufficient market in most accounting ledgers. Modern technology and growing customer sophistication in a global marketplace are acting to accelerate the steps which a firm must take to remain competitive. Unfortunately, for most corporations, the mechanisms traditionally used to measure corporate activities have not changed to reflect the new composition of the business environment. Simply, as businesses reengineer themselves and apply technology in increasingly new ways, it becomes apparent that the associated skills, knowledge and applied value of people must be reevaluated and – now needs to be reflected in the mechanisms used to measure their direct and indirect contribution to each business process.

In the twentieth century, new leverage points for business came into their own. Economic capital became a critical factor driving expansion and more sophisticated international trading. Accounting standards were hard pressed to manage this sea change. New types of capital equities, exchange trading of those equities on a massive scale, international debt financing and futures markets are examples of key levers stimulating international growth in the last century. At times, that growth was interrupted by the problem of valuing the interaction among capital, assets and liabilities. Securing, borrowing, investing and settling economic obligations needed a rigorously defined system of valuation and accountability. Floating exchange rates, international settlement procedures and new accounting rules

were defined or revised to maintain trust and market equilibrium. With the baby boom, the influx of women into the workplace and better-educated employees, business had an ample supply of talent. They could and did take employee valuations for granted.

Technology emerged as key enabler to supporting a 24 × 7 trading capability that scaled to handle trillions of transactions. Measuring technology's reliability and value became a prime focal point as firms sought to shorten the time between transaction and settlement, between capturing accounting data and publishing it. IT was the two-edged sword that enabled improvements in accounting capabilities while befuddling those who attempted to accurately measure its economic contribution within individual firms. In the latter part of the twentieth century, valuing and measuring a firm's technology assets and capabilities reached new levels of controversy.

Technology became an asset class that engendered both real and illusory valuations. Early debates on the valuation of IT focused on when it should be evaluated as a capital asset and when it was a business expense. IT asset driven companies went on to hit new and irrational levels of valuation (witness for one the record write-offs driven by America's most prominent Internet Service Provider, AOL). IT's value seemed no longer dependent on merely the value of the information (or the occasional knowledge) it conveyed. Conversely, today the value of IT is threatened by an explosion of misinformation (spam and viruses being two prime examples).

Literally at the heart of the valuation controversy is our subject: people. We believe the firms that seek to measure rigorously and invest in people, as capital assets, will realize significant value for their employees, customers and investors. To manage intelligently the firm's greatest assets, that is, knowledge and the applied value of people, there must be linked to business processes by quantitative and qualitative measurements. Otherwise, unrealistic valuations for technology, future cash flow, resource holdings, etc., are likely.

The valuation of human capital (HC)

This book focuses on how to measure and link people's production of information, knowledge, services and products. For our purposes, human capital and its associated value can be described as the skills, competence and capabilities that are inherently attributed to the

members of the organization. Simply, human capital is the tacit knowledge held in people's brains.[1] Although a key element of human capital is knowledge, we will not attempt during the course of this book to assign a value to the know-how of an organization. However, since we will refer to knowledge in various forms throughout this text it is perhaps best to define it in the same context as Ferguson:

> An 'awareness of how the world works' created through learning, as data and information are selected, discarded, processed, synthesized and combined with existing knowledge. Explicit knowledge can be written down or described by using diagrams or mathematical expressions, and so can be readily transmitted to others. Tacit knowledge is intrinsic in human resource and cannot be readily transmitted to others. Organizational-specific knowledge is unique to a particular organization and so it is a source of potential advantage.[2]

People resent being defined as assets since they are not property, but living, free, resourceful, wilful, individuals. Yet clearly, they drive and are driven by two key twenty-first-century assets: information and knowledge. While objective data can be processed by binary computers, information and knowledge require human components. We borrow from traditional information theory to designate information as composed of three components, a specified sender, a specified recipient, and a message, that the latter considers relevant. The last point is critical in designating the recipient and not the sender as the ultimate determination of whether an incoming email is information or spam. The rubric of human capital (HC) then spans people and the information and knowledge they produce in the forms as diverse as hallway conversations, work processes and patents. We recognize that human capital raises the spectre of employees as indentured servants or at the extreme slaves. While information and knowledge can be bartered and sold people cannot. Our presumption is that HC is a legitimate and meaningful characterization if writers, employers and employees champion two fundamental principles:

1. Employees and employers share equal responsibility in openly defining mutually agreeable terms and conditions of employment.

Either employee or employer can sever the employment relationship unilaterally, although either or both of the parties may be entitled to specified considerations as a result of the severance.

2. Employers and employees share an ongoing commitment jointly to measure and respond to progress and changes in employee, business and market performance. The dissolution of tacit lifetime employment agreements requires both employers and employees to agree on how the risk of job termination will be managed. In the twenty-first century world of work that means employers and employees have a joint obligation to agree on the key measures for individual and organizational performance. Equally important is the obligation jointly to review and agree on how the firm and the individual is progressing in relationship to agreed on metrics and goals.

We hope that both employers and employees will use this book to qualify, quantify and link how they create business value, innovate, improve productivity, and make informed choices on issues such as training, job change, job migration and rewards.

Preface

Trying to place a value on people and their associated skills is not a new issue for corporations. In the eighteenth century, Adam Smith realized that labour was more than hours worked; John Westerman struggled to understand why Swedish shipyards needed twice as much labour as their English and Dutch counterparts.[1] In Eliasson's view, English and Dutch shipyards had three distinct advantages that worked in concert to leverage the physical labour needed to construct ships: new machines, knowledge to use the machines and managers who knew how to organize work or production to capitalize on these elements as a capability. Throughout the nineteenth and twentieth centuries, technology, knowledge and management worked symbiotically, creating new products, satisfying customers and rewarding shareholders. Suddenly, during the last decade of the twentieth century, this triumvirate was reshaped as technology became the dominating factor of market differentiation. Business became obsessed with leveraging technology, for example buying more computers and using them for ever increasing business functions. The dotcom boom exacerbated this simple act of acquiring technology, because it was perceived as demonstrating to customers the firm's technological prowess. Countless corporations built websites and eCommerce capabilities regardless of customer demand, in many cases without fully understanding how technology specifically altered their products' production, distribution and perceived value to their customers. During the dotcom boom, corporations acquired technology seemingly because everyone else believed it was necessary and therefore valuable. However, after the dotcom industry's meltdown, corporations have come to the realization that two firms equipped with similar technologies often produce significantly different results. Senior management started asking questions regarding the wide variability in results. Thus at the dawn of the twenty-first century, companies are now reevaluating the use of technology as the key element in the formula for market differentiation opting to focus on technology's applied use by the individuals employed throughout the corporation. Perhaps the balance in the old triumvirate has returned.

Corporations are quickly realizing that the competitive pressures of a rapidly globalizing business environment demand that organizations achieve higher levels of performance, innovation and customer service in all aspects of their business. In the newly forming borderless world of commerce, businesses large and small are suddenly appreciating technology's new role, i.e. simply to provide the firm with a specific means to generate value to their customers while the human resources of the organization give the company its market differentiation. Examining a large number of corporations in a wide variety of geographies, one can recognize that a company's value proposition to its customers is comprised of three fundamental factors: the rate at which technology can be absorbed or deployed by the organization; the depth at which the firm can apply technology to the business processes; and the abilities of the talent within the firm to optimize, streamline or redesign the fundamental business processes in direct response to customer demand. Within a corporation, various combinations of these three factors form competencies.

Assessing the relative value of people and their combined abilities has plagued managers, businesses and academics for decades. In the United Kingdom, the need to understand the fundamental issue of human capital and the relationship between performance, competency and value generation led to the formation of the Taskforce on Human Capital Management by the Secretary of State for Trade and Industry in January 2003.[2] The mandate for this taskforce is to analyse and address key questions on the effectivity of human capital management and the use of performance indicators throughout an organization. More interestingly, the taskforce raises the fundamental question: can performance indicators be standardized across industries to provide investors, market analysts and government agencies with a relative measure which assess a firm's brainpower? Previously human resource (HR) practioners have attempted to address this issue by applying quantitative measures to specific aspects of a person's abilities or to a highly specialized group. These efforts resulted in approaches such as function point analysis[3] for software development groups within the firm and mechanisms such as skills inventories. In many cases, these efforts brought some semblance of order to areas of the firm that seemed chaotic to management. For the most part, these attempts at valuing human resource capabilities have fallen short of corporate expectations because they failed to incorporate key

variables such as creativity, adaptability, innovation, morals, ethics, people skills and the aggregate power of teamwork.

Recent work to place measurement into perspective, created by scholars such as Kaplan and Norton in *The Balanced Scorecard* and Jac Fitz-enz in *Human Capital Branding*, have resulted in improved information, supplying a new set of tools to senior managers. In this book, we offer several possible approaches for organizations to begin their journey into the topic of human capital management. Here, we offer qualitative and quantitative frameworks in which to establish a value proposition for measuring, monitoring and rewarding what has been traditionally thought of as 'softer components' of corporate competency as a convenient starting point. The central argument is that the value of human capital is not found in any qualitative or quantitative measures placed on individuals, but in the value generated to customers by the combined efforts of many diverse talents which are more difficult to quantify. For example, how does one place a quantitative measurement on the personal chemistry of a management team, which is often a gut-feel parameter used by venture capitalists to evaluate the investment risk in a start-up company? Similarly, how can five people in one corporate environment achieve one level of productivity and the same five people transferred to a different corporate environment perform marginally better or worse? Measuring individuals is designed to be objective; it is a tool to understand better the environment in which people perform and how to help them excel.

However, establishing the value for individuals is only half the equation; any generated metrics of human value is relative to management's ability to harness, focus and direct not only the production of the company, but also the continual growth of the firm's intellectual capital. Corporations professing that 'people are their greatest asset' call for a framework for valuing people and an opportunity to lead global companies into new levels of human capital management. It is with the mindset that there is no one global solution to the problem of valuing human capital that we begin this journey into the long-standing debate on measuring the value of what human beings produce. Perhaps more importantly, our journey begins with understanding how measurement in a meaningful context provides an indicator to the untapped potential of what individuals can produce in a given environment or under a specific organizational

structure. Unfortunately, our traditional measures of corporate performance found in the firm's annual report do not portray accurately to investors a definitive picture of the potential of the corporation's intangible assets (for example, people and their associated skills). For example, the absence of standard measurements has led venture capitalists to devise a more empirical means to predict the future performance of a management team before making substantial investments in a start-up corporation. During the due diligent phase of the relationship, the venture capitalists spend time to get to know the talent of the management team. Venture capitalists use empirical data, in conjunction with their experience and knowledge, to observe the behaviour of a team, and this guides them in thier valuation process. Needless to say, this is a time-consuming and labour-intensive process which is not practical across large-scale organizations. Dickson notes that in many industries such as the services and high-value-added manufacturing sectors, the skills, knowledge and loyalty of the firm's employees have often made the difference between success and failure.[4] Recognizing the potential deficiency of any global or national standard for reporting the value of human capital, this book examines a variety of approaches being used by corporations to address this issue. The primary approach used here reflects multiple corporations using a variety of methods which have, in turn, been adapted for several small to medium-sized enterprises (SMEs) to address the problem of talent management. The names of some of the companies have remained confidential as per their request.

Acknowledgements

As individuals, we come to realize that our journey into the world of human capital started many years before we realized the significance of the part people play in the production of business. For some of us a single individual will invest a small part of their human capital in us which over time will yield significant returns. Thus a chance exposure to Richard (Bucky) Buckminster Fuller, in a lecture room at Hood College in 1978, begins this journey to understand the value that people bring to an organization. Bucky changed forever my perspective on the world around me. His advice to me (and everyone on the planet) was simple – investigate how things work and then challenge why they came to be. One consistent message that was at the heart of Bucky's motivation was straightforward: 'doing more with less'. This uncomplicated inspiration was akin to the rallying cry for reengineering. Michael Hammer and Jim Champy's *Reengineering the Corporation* put forth a straightforward message; business had developed for many years with technology contributing to enhance productivity and at the same time limiting how organizations accomplished work. As technology advanced it was time for a radical rethinking of the processes used by corporations to achieve value.

These simple mantras became for me over the years a lens through which to view the challenges of business, becoming more valuable as we begin to address the changing landscape of business in the twenty-first century. In October 1994, while working at CSC Index, I was asked to fly to Princeton, New Jersey to participate in a workshop called 'Tango', led by Karl Erik Sveiby. In a large conference room, consultants, practioners and academics engaged in a board game designed to emulate the acquisition of talent, the applied use of the talent to projects and the relationship between investing in talent and talent retention.

Upon returning to my office in Boston, I read Sveiby's book *The Invisible Balance Sheet* which not only made sense, it also made me astonished that companies were not rushing to adopt the framework or at least adapt it in some way. Bucky's lens and Sveiby's long-underused book served as inspiration and basis for this book. *People – The*

New Asset on the Balance Sheet builds on the work of Jac Fitz-enz and others in an attempt to take the subject of human capital management and view it from the perspective of a non-human relations professional. We tried to look at the issues involved through the eyes of a senior manager who must make decisions that span the corporate enterprise while taking into consideration new thinking from the field of human resource management.

Several individuals deserve acknowledgement for their contribution, direct or indirect, to this book. We would like to thank David Thomas, Pamela Freeman and Katie Latimer from CRAC Cambridge for their support in organizing the CRAC AGM on the topic of *People – The New Asset on the Balance Sheet*. We would also like to acknowledge Stuart Bradley from Corven Partners for many interesting discussions on human resources, and Nina Komissarova of TROIKA Dialog, for all her help in my research during a brief visit to Moscow. A big thank you to Deborah Knowles from the Westminster Business School, Dr Andrew Bottomley (BHR Associates Ltd) and Tom Serpell (Obsidian Consulting) for all their comments on this book.

I would like to extend a special thanks to Saleh Al-Jewain of the Arabian Society for Human Resource Management for his unsurpassed hospitality and in-depth discussions on the challenges of human resources in the Middle East. Opening my eyes to the complex multicultural issues of Transnational Human Resources was Mohammed Al-Khalfan from Saudi Aramco and Aahad Osman-Gani of the Nanyang Business School in Singapore.

Once again I would like to express my most sincere appreciation to the provost and fellows of King's College, Cambridge, for their continued support of my research.

Finally, I would like to thank Isabel DiVanna for all her help in typing, editing and ensuring that the argument of this book 'holds water'.

JOSEPH A. DIVANNA

Introduction

Peter Drucker hit the nail on the head when he affirmed that few organizations actually believe the preached principle that people are their greatest asset.[1] He goes further to say that if people believe that they are valuable assets, then they must act as valued contributors. If the firm treats its human capital like a commodity, then the employees quickly realize that the management team is speaking management guru rhetoric that only matters to industry analysis and external ears. To the average person, the idea of being categorized under such terms as 'human capital' or 'knowledge asset', or merely labelled as part of the intellectual property of a firm, seems dehumanizing because it objectifies people in the same light as the company's computers, buildings, automobiles and other capital equipment.

The terms 'human capital' and 'human capital management' fail to capture the imagination of individuals because they lack the essence of contributing to the added value of the organization's spirit of work. De Francesco makes an important distinction regarding how we view the relationship between people and human capital: 'people are not an asset of the company – but human capital is'.[2] In De Francesco's view, people are transient; they come and go as opportunities present themselves, whereas human capital as a concept derives its value from the throughput generated by the people organized in a manner governed by a business process. It is the firm's ability to organize an individual's talent into productive activities that determines a person's underlying value.

In our experience, we have found that people prefer to be referred to as talent. In many cases, individuals respond and react badly to the

J.A. DiVanna et al., *People — The New Asset on the Balance Sheet*

use of such terms primarily because of the process in which many human resource groups use them to codify skills which appear all too often as a mechanism that commoditizes skills. Complicating the lacklustre view of human capital and its formalized management are two key factors that have acted to shape people's opinions. First, there is the generality of the definition, which is wholly ambiguous, being applied to almost every aspect of human endeavour within the firm regardless of contributed value. Second, there are several misunderstood aspects of the applied use of the term 'human capital' by companies. The misunderstood nature of human capital management has evolved into three business myths:

- Human capital is just another intangible, falling into the same asset category as brand, community standing or innovation.
- Human capital is difficult to quantify given the dynamic nature of people, skills, experience and competency are variable and often do not reflect the potential of the individuals to apply themselves to changing business conditions.
- Human capital is a problem for the human resources department.

The first myth is that human capital is an intangible asset difficult to understand when contrasted to material assets such as a computer system. Yet, corporations do understand that to create value for customers and shareholders without people and their inherent skill sets is impossible. Therefore, one can argue that since people themselves are tangible and the product of their efforts is measurable and valued by mechanisms such as productivity ratios for managers, return on investment for shareholders and revenues generated in sales to customers, then the notion of labelling human capital as an intangible asset is incorrect, or at best inaccurate. Organizations realize that the applied use of human capital is the critical element in the firm's equation for generating value. Their dilemma lays in how to represent the value in expressed terms. Using a specific measure of value for human capital is essential to communicate with shareholders. The effective management of human resources are reflected in the profits generated by the underlying business processes. The optimization of human resources applied to the business processes is reported in measures such as return on investment and earnings per share.

The second myth is that human capital is unquantifiable because an employee's contribution to the firm is extremely variable. Experience, know-how, skills and/or productivity are allegedly impossible to quantify. This attribute often frustrates human resource departments and business managers when equally qualified people perform at completely different performance levels for no discernible reason. Other factors that contribute to the complexity of quantifying human capital are motivation, *esprit de corps*, bureaucracy, a sense of purpose and office politics, which all affect the performance of the organization and the utilization of its human resources and seem to defy measurement. The variability of these factors presents increasing levels of difficulty in the measurement of human capital because they are often subjective and misunderstood.

The third myth is that the management of human capital is a function, project or set of activities that exists in the twilight world of the human resources (HR) department. Although, in most cases, the notion of human capital management gained its initial foothold in the HR department where it was discussed at length, the application of human capital as a management tool rests squarely with the senior management team. For most corporations, the definition of an asset has not changed: 'an item of property owned by an individual or a business which has a money value'.[3] Moreover, corporations tend to classify assets into three distinct categories: physical, financial and intangibles (such as brands, knowledge, goodwill, community standing and other difficult-to-quantify attributes of the organization). Therefore the idea of human capital assets creates a paradox for many corporations because it has the potential to create a negative reaction within the firm, leading employees to believe that people are simply owned commodities of labour. We have often wondered why a more human term such as aggregate people power or employee potential was not developed to represent the value of what people contribute to the organization's total generation of shareholder value.

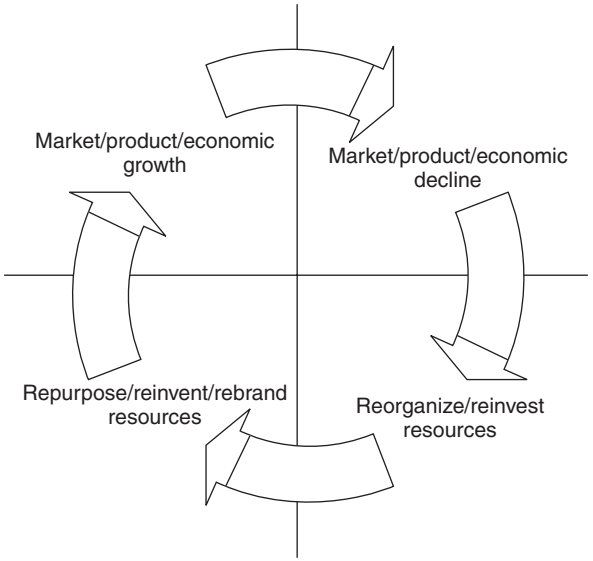
It is often with a negative connotation that human capital management is scorned by employees' offen considered just another exercise by the HR department as they try to justify their existence. What people have failed to realize is that within one generation the unwritten social contract between employer and employee has in fact been rewritten by the invisible hand of social change. Trends made

possible by technology (such as free agency, homeworking and outsource) have eroded corporate paternalism and erased traditional feelings towards corporate loyalty, thus causing workers to realize that lifetime employment – which has been a traditional benefit of large corporate employment – is now entirely outdated. In parallel to this change is the rapid decay of applied technical knowledge due primarily to the increasing complexity of technology itself coupled with more frequent releases of next-generation components. These two factors (decaying paternalism and advancing technology) have played a large part in the employer's surmising that an individual's value changes over time, as skills become outdated and new skills are required to enable the organization to adapt to new business conditions.

Businesses embrace change on two distinct fronts: external market forces that are often beyond their control, and internal changes that manifest themselves as modifications to the organization's structure and/or alterations in the pool of talent or the skills possessed by the individuals of the firm. Corporations counter the changes generated by these factors by reacting to external market forces at the strategic level and taking tactical proactive measures to address the internal factors. The vast majority of organizations treat the changes initiated by external and internal forces as one-time events, launching change management programmes or projects such as reengineering to facilitate the move towards a new operating state. Increasingly, corporations fail to realize that change itself is not an event, but a continual process. Organizations will undoubtedly always be in a state of flux as external conditions, technology and people continue to adapt to challenges that act to destabilize the firm's value proposition. One could argue that companies need to increase their awareness of the cyclical nature of change in their organization to adjust their human capital requirements as they realign their business strategies, as illustrated in the figure below.

As business conditions change, corporations must expand or contract their business activities to match the rise and fall in customers' transactions. Theoretically, business processes within the firm remain stable, as their structure (the logical order of tasks and activities) is independent from transaction volume. However, as corporations seek new market opportunities and new ways to reduce operating costs, they periodically alter the fundamental components of their business

Figure I.1 Growth–decline cycle



processes either to adjoin a new added-value activity or to trim down the number of activities in an effort to streamline a process for efficiency. When organizations take this modular approach to business they must cultivate a deep understanding for the differentiation between a capability and a corporate competency. Traditionally, capabilities could be bought while-experienced-based competencies were usually developed internally. Corporations that fail to make this distinction often experience a wide range of organizational problems and time and again opt to outsource core and non-core functions with disappointing results. We will explore briefly the idiosyncratic differences of competencies and capabilities in Chapter 1. Competencies must be built up over time because they require a degree of experience or specific knowledge acquired through practice. The competence of today's working professional is at the epicentre of the firm's ability to react to changes in the business climate. The combined abilities, skills and knowledge of a firm's employees are the prime ingredient in the organization's equation for added value. However, when considering the value of human capital, one can

be tempted to make the assumption that the total capabilities of the corporation are simply the aggregated sum of the skills and experience of all the people employed by the firm. If the total valuation of a firm's human capital were possible, based on the simple premise of tallying up an inventory of skills which could be made quantifiable, it would prove to be worthless because it would fail to place individual skills and experience into a meaningful context. When corporations attempt to value their human capital in this way, they overlook two important aspects of individual performance: an individual's productivity is dynamic (for example, less when sick or distracted, higher when healthy and motivated); and there is a multiplicative effect on productivity when people interactively exchange ideas. Most of us have experienced the surge in innovative thinking during a brain-storming session where one person puts forth an idea that triggers a cascade of new thinking by other members of the group.

These elements of productivity that are a result of interoperation with co-workers while performing day-to-day activities or during problem-solving interventions add to the sentiment that people do not like to be measured if they believe the goal is to marginalize their productivity against others. People have an inherent need to feel useful and valued and that they are making a direct contribution to the organization. Typically, measurements fail to produce meaningful results when they are imposed by people who are outside of the business process, such as consultants, auditors and human resources departments.

As we have now laid the groundwork for a discussion on establishing a measurement which reflects the value of the firm's greatest asset (that is, the people they employ), one can see it presents managers, analysts and academics with a conundrum. What are the characteristics of an organization that can be measured quantitatively to give a good representation of the firm's capabilities? How can they help a company drive towards future goals, products and business conditions and what mechanisms can be used to represent intangible factors? In order to address the complexity of this topic, we have dissected the issues into three broad areas of discussion: the personalization of value, the fundamentals of external market dynamics, and an approach to establish a relative measure that can be used by corporations as a baseline which can be tailored to fit their specific industry needs.

In Chapter 1, we discuss the personalization of value and how today's workers possess a dissimilar attitude towards work from that of preceding generations, because of the fact that employment in the current age must be more than monetarily sustaining. The fundamental micro-level question is what makes people valuable and, more precisely, why the value inherent in people is so hard to measure. The second question that arises from this look at the personalization of value is (once recognized as measurable) why the inherent value of people has historically been left off the balance sheet as an asset.

Chapter 2 discusses how fundamentally the value of people is changing in the emerging global economy. Are people actually changing, or is what they can do as a direct result of new technologies fostering a new sense of value? Can the human capital of the firm be combined with external resources to establish a new value proposition or do new value propositions require entirely new firms? This question is playing out in a most interesting in the United States Airline Industry. Established airlines have frequently sought to launch entirely new offshoots to compete with start-up challenges. Much the same way GM felt it needed to create an entirely new entity in Saturn to meet the challenge of imports.

The focus of Chapter 3 is to examine how the skills, experience and talent of people should be valued within the firm and how to establish meaningful measurements that are suitable to represent people's contribution to the organization. In Chapter 3, we present our own method for calculating the value of human capital which has been applied to several small to medium-sized enterprises (SMEs). Used primarily as a learning tool for the organization, this method illustrates that the need for the measurement of people and their contribution to the corporation is not limited to large organizations.

It is not the intention of this book to simply add to the abundance of publications on human capital, knowledge management, intellectual capital and human resource management. We intend to acknowledge and refer to pioneer works by Sveiby, Kaplan and Norton, Edvinsson and Fitz-enz amongst others as valid methods of addressing the issues raised in placing a value on the endeavours of people. This book offers both interpretations of implementing these methods and alternative approaches which can be found to be more current and more applicable in today's global economy. The expressed

purpose of writing this book is to give business professionals several practical approaches to evaluate and then implement and improve the operations of companies, more efficiently manage people, and optimize the processes which comprise the firm's value proposition. Moreover, our goal with this book is to demonstrate that measuring human capital is not a subjective exercise for academics, but rather a fundamental business requirement that requires an ongoing exchange of information among investors, managers and employees.

1
The Personalization of Value

> It is better to ask some of the questions than know all the answers.
>
> James Thurber[1]

Introduction

The old adage goes, 'consultants simply ask you enough questions for you to tell them the answers'. Perhaps the people we should be asking how to personalize value within the corporation are the individuals who make it happen, that is, the workers themselves. Consultants, academics, business professionals and senior management teams almost universally agree that people are a valuable asset to the firm. Yet, when asked to place a value on an individual's direct contribution to the corporate value proposition to customers, most senior executives will struggle to quantify the attributes that comprise the most desired skills and their relative value. The world of business redefines itself with each new generation of people and every successive advance of technological capabilities. As these two factors converge to shape the firm's activities that we have in the past called '*work*', the value of an individual's contribution to the firm will increase and diminish accordingly.

One could argue that the value of the individual is transient, deteriorating over time as market conditions change, driving a business into new products or services. What is interesting to note is that most companies will agree that the global business environment is in a continuous process of change yet, when they decide to address the

J.A. DiVanna et al., *People — The New Asset on the Balance Sheet*

market or demand changes, they are often too late. This phenomenon is acutely true in companies where the human assets are underestimated and/or in corporations that do not invest in people properly.

How can people be reassured in a global context where market cycles make economies run fast? Shorter business cycles reflect the transient nature of the increasing levels of specialization. One can be tempted to blame shorter cycles on corporate short-termism and corporate behaviours that are a result of ever-shortening financial market cycles; however, since the 1960s, technology has played a role that can not be overlooked. Computer technology over the same period has become less expensive and easily within the grasp of most organizations. The convergence of telecommunications, computing and software introduces another layer of complexity to our problem of measuring productivity across the corporation. The complexity of measurement is exacerbated when initiatives such as technology implementation projects are recognized as essential non-core business activities. When the productivity of the entire corporation is viewed holistically, the inherent actions of the information technology (IT) organization often act to skew productivity and performance measurements because of their tendency to become a company bottleneck.

Problems within technology organizations are compounded by the continuous changes in technology itself, as hardware and software become more sophisticated, while telecommunications networks enable companies to interoperate with ever-increasing numbers of external entities, each armed with their own components of technology. One can see that establishing a value proposition for people and their wide range of skills, experiences, competencies and abilities is indeed a very complex affair. However, to address this complexity and establish boundaries for these issues and to set the readers' expectations whilst reading this text, we can state that a value proposition for people is influenced by six fundamental factors:

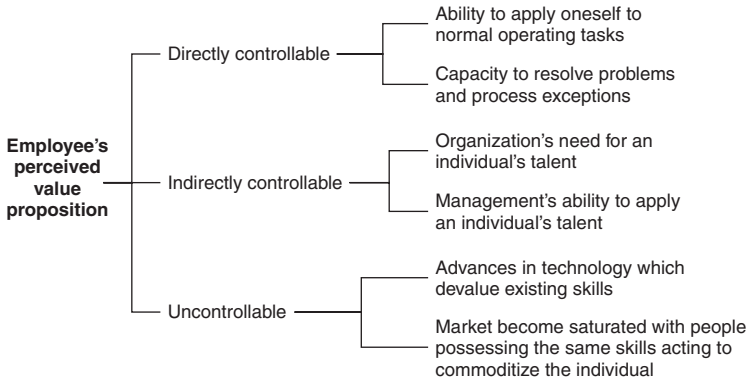
- the organization's ability to develop and utilize the combined skills of employees in an optimum manner to form core competencies
- the employee's satisfaction with the management, politics or culture of the corporate environment
- the applied use of skills possessed by individuals relative to the tasks at hand which are represented in a business process or support activity

- the weight of the current business cycle (growth or downturn)
- the ability of the organization to define, refine and communicate its distinctive strategy for anticipating and responding to changes driven by markets, technology and customers
- the weight of the business processes combined with the associated layers of organizational bureaucracy typically called administrative overhead.

Thus, one can argue that an employee's value proposition has three distinct parts: one which can be controlled exclusively by the employee (such as individuals ability to apply themselves to the task in two ways: tasks associated with the smooth operations of the firm and special tasks that arise from problems, commonly referrred to as 'exceptions'), a second set of tasks which are indirectly regulated by the individual and a third set of conditions which the individual has no control, as illustrated in Figure 1.1. This is the case of the organization's ability to use their talent to achieve short- and long-term objectives. The latter part of this equation, the firm's ability to apply the individual effectively, will be discussed in detail on p. 53.

This presents us with a fundamental question: why are people valuable? A simple answer would be to say that they add value because they do work, perform tasks, operate machines, process data, act on information or a variety of other definitions of business activities. The more difficult answer is one that considers that people are

Figure 1.1 Employee's perceived value proposition



valuable because they can use their skills and knowledge to think of ways to add value beyond the simple set of tasks. Easily said but difficult to quantify, the potential for people to generate value beyond a set of predefined activities is often left to happenstance, labelled as an accidental innovation or an employee's thinking creatively. David Sutherland of the US based Business Innovation Consortium believes that innovation should not be a surprise to an organization, but rather a deliberate process which taps the know-how of the entire organization on a regular basis.[2] Therefore, one can argue that people are valuable to the corporation in two ways: their ability to perform work, and their potential to rethink work, redesign products, realign services and assist in the firm's adaptation to new business conditions.

The difference between an individual simply working to execute tasks versus a person actively thinking of solutions to complex problems brings forth a second question: is the inherent value of an individual recognized equally by any or all employers? In the 1990s, corporations began to profess their recognition of the value people bring to the firm. This trend continues into the twenty-first century, evidenced by statements found in the annual reports of many corporations such as 'people are our greatest asset' or 'our people are our business'. At the beginning of this trend, many people regarded these statements as simply corporate 'feel-good statements' pontificated by management but rarely reflecting the politics of the organization. This attitude was reinforced when individuals who were in high-demand jobs such as technology were suddenly made redundant in the wake of the dotcom downturn. People across many industry sectors began to realize that like the manufacturing jobs of the 1980s, the service jobs of the 1990s had also been commoditized. As companies begin to readjust to new levels of economic activity which are a direct result of a rapidly globalizing economy, corporations are now realizing that the measures designed to cut operating costs may have also undercut their ability to compete in a global market, as noted by Trampoe:

> Most organizations that have taken the downsizing route have done so to survive. They use the crisis to clean out the deadwood – people, stocks, assets and so on. This improves their financial situation and restores confidence in the short term. Sustaining these short-term improvements over a much longer timeframe is

> difficult. This is often because rapid downsizing destroys the infrastructures that sustain organizational performance. It demotivates. It creates uncertainty. It destroys informal communication channels. It saps the energy and enthusiasm of staff. It destroys trust and commitment. It destroys customer loyalty. None of this is inevitable, but it does happen.[3]

In some cases, corporations failed to realize that the relative value of the knowledge possessed by employees spans both the business processes in which they work and also a fundamental understanding of the industries in which they operate. Media sources have labelled this condition 'the brain drain'. However, many corporations have assessed the situation and taken steps to reevaluate the role of people in the generation of value to customers and shareholders. Organizations such as Abbey National have adopted the view that all employees are to be valued as partners, each with a specialized ability to generate value to their customers:

> At Abbey, we regard all our employees as partners in the business. We recognise, respect and value individual differences, acknowledging the distinctive contribution that each person makes to the success of the business. This commitment to valuing people as individuals underpins our desire to be the financial services employer of choice in the UK.[4]

Abbey National's perspective is important because it identifies that generating value to customers is directly linked to the physical and mental well-being of their employees. This belief is underpinned by flexible working policies that respond to the specific needs of Abbey National's diverse workforce. Policy options are provided to their employees as a portfolio of benefits that can be used and tailored to fit a wide variety of lifestyles such as part-time work, job-sharing, career breaks, voluntary reduced work time, homeworking, and a number of family-friendly practices such as adoption leave, maternity and paternity leave, discretionary leave, compassionate leave and a play scheme which provides access to childcare during the school break in summer. Abbey National's policies do not simply reflect a generous employer; they reaffirm that the reinvestment in people must be comprehensive and flexible to give individuals the opportunity to tailor benefits to

support their lifestyles. This in return orientates Abbey National's employees to provide the same level of flexibility in their approach to customers, thus realizing that the next generation of banking products must facilitate a customer's lifestyle. The reaffirmation of employee worth is further defined by companies such as GlaxoSmithKline, which extends the significance of each individual and places an intrinsic importance on the knowledge brought by employees that enables them to perform within the context of the communities in which they operate:

> GlaxoSmithKline aims to have a workforce and working environment that fairly reflects the diversity of background, culture, beliefs and characteristics of the communities in which we operate, encompassing employees, potential employees, customers, suppliers and shareholders … Diversity is a business and competitive issue. We value and draw on the differing knowledge, perspectives, experience and styles in our global community.[5]

Companies like Abbey National and GlaxoSmithKline realize that the changing conditions in the global economy place a premium on a workforce that feels connected to the activities they perform. Workers want ownership in formulating the ways in which the firm generates value to customers and shareholders. This leads us to another interesting question: is work the same as labour? One can argue that new generations of technologies such as fax, Internet, mobile phones and camera phones have enabled workers to perform their tasks in non-traditional working environments. This has led to a fundamental redefinition of work, enabling people to work in a variety of new ways previously unimagined. Subsequently, many people are realizing that the lines between work life, home life and leisure activities are not as clearly defined as they were in previous generations of post-industrial society. This is discussed on p. 53.

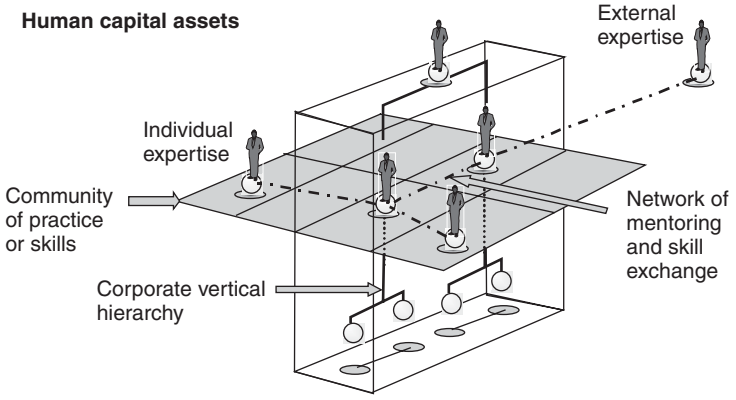
The establishment of human capital

Today's business climate presents companies with an operating condition in which their business processes may span vast geographies, interoperate with multiple corporate entities and engage a diversity of workers. As corporations become more interconnected to fulfil customer demands, the value of an individual's knowledge and

comprehension of more complex activities increases dramatically. The emerging state of interdependence between corporations acting in a network of value can be otherwise stated as acting to achieve an operational synergy. Corporations operating under these conditions are said to be participating in a synergistic economic relationship or synconomy because they cooperate to act as one seamless organization in the eyes of the end customer.[6] As non-multinational firms become more international in focus, they realize that the skills, knowledge and experience of their employees are an established asset that requires the same degree of management as any other asset such as capital equipment, buildings or other corporate investments. This is not to say that people within the firm are now marginalized and readily equated with inanimate objects. Senior managers have recognized that human capital is a dynamic asset that requires management attention and continual investment.

In order to operate under the newly forming multi-organizational conditions, corporations must address the issues of human capital management on a never-before-imagined scale crossing cultures, social values and nation states. Making matters even more complicated, human capital assets are no longer contained within a hierarchical corporate structure, but are evolving into a network of highly refined skills forming cells of corporate competencies which use external resources, as illustrated in Figure 1.2.

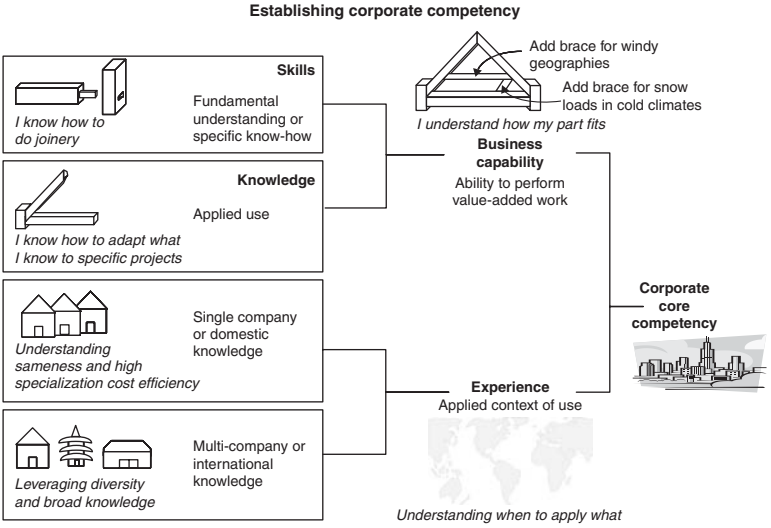
Figure 1.2 The network of human capital assets



During the 1990s, it became evident that the traditional hierarchal structure within corporations was undergoing dramatic change, slowly being circumvented by intraorganizational communications brought about by technologies such as email and Lotus Notes. These new avenues of communication were not used intentionally to bypass the command and control structure, but came about because of an inherent need for intraorganizational problem-solving between professionals in all parts of the business process. It turned out to be faster to send an email than to schedule a meeting. With the introduction of the Internet, corporations began to establish internal networks (intranets) to facilitate collaboration between internal divisions. This trend is now expanding beyond the confines of the corporation to the firm's network of partners, affiliates, outsourcers and other members of the corporation's extended supply and distribution chains.

The added complexity of mixing resources, and competencies and capabilities makes measuring quantitatively valuing human capital assets more difficult than in previous generations of corporate structure. One thing is clear: the measurement of human capital is only meaningful when it is made relevant to the people engaged in generating business value. Organizations must establish a measurement that can be used as a tool to assist the organization in generating value. Measuring human capital just for senior managers to have a monetary figure to enter as an asset on the balance sheet is a by-product of this endeavour, not the prime objective. However, it is becoming clear that measuring human capital and its associated value is no longer an activity reserved for large corporations who have the means to experiment with different methods. Establishing a value for human capital is becoming a requirement for firms of all sizes that are engaged in global business activities. Corporations whose primary means of generating revenue is solely dependent on people – such as consulting and research companies – are the first to sense this requirement because of two key factors: the need to attract investment capital from a variety of world sources, requiring a mechanism for institutions to evaluate the value of the talent employed; and a need to express quantifiable metrics to attract and retain global employees. The need for an easily understood mechanism for valuing human capital becomes important the more the corporation engages in global activities and requires investment

Figure 1.3 Establishing corporate competency



capital and/or employees from sources other than the United States or Western Europe.

However, corporations must establish effective measurements to form a baseline of information by which the value of human capital can be understood. The key is to define the essential terms needed to address the issue of measurement in a comprehensive manner. Words such as competency, skills, experience, capability and leadership, which are illustrated in Figure 1.3, must come complete with precise interpretations from management if they are to be understood by people in all levels throughout the organization.

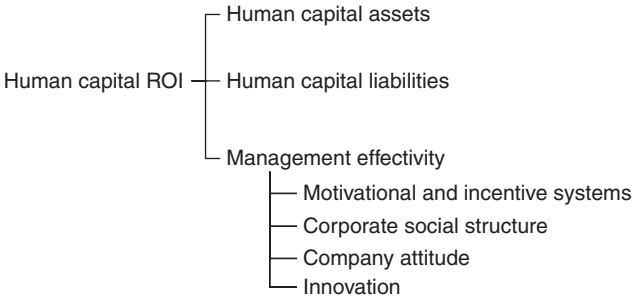
Eliasson provides a useful definition for competence: 'competence defines the ability to use knowledge and information for a particular purpose'.[7] In Eliasson's view, the value of the firm's intangible assets (such as competence) is the extent to which the management of the corporation can use the skills and experience of employees to achieve goals and generate profits. A corporate core competency combines a defined business capability with the experience of people employed. Experience is a key factor as it gains relevance when it can apply a business capability to a specific context. Therefore, corporate

competence cannot be measured separately; any valuation must include a variable that takes account of how the management of the firm employs its assets to deliver value.

Andreissen and Tissen argue that companies organize their intellectual capital to form and/or support core competencies and non-core activities. Corporations typically have between eight and ten competencies, all of which are supported by their intellectual capital. Management must build intellectual capital to strengthen core competencies as a whole and not its intellectual capital in general. Making a key observation, Andreissen and Tissen point out that managing core competencies and the supporting intellectual capital also presents senior managers with a dilemma; organizational myopia occurs when these are managed too rigidly.[8] This condition is best understood by the example of Xerox's declining to invest in the Personal Computer prototype developed in its Palo Alto Research Center leaving it to Steve Jobs to lead the PC revolution. In this example, Xerox focused solely on its present core competencies, failing to leverage the intellectual capital and knowledge assets of the firm to create the next generation of core competencies. Therefore, one can construe that although alignment between intellectual capital and core competencies is desirable, it must be balanced in such a way as to prevent the stifling of innovation and cross-organizational learning, thereby reducing corporate social capital.

The central idea is that the value of intangible assets must be taken in the context of the organization in which they serve, the processes they support, and the management that controls their goals and objectives. It can be further argued that if indeed the collective skills and experiences of people within the corporation form the essence of a tangible asset, than it follows logically that there must be a corresponding human capital liability to balance the equation. Taking into consideration the concept of human capital as asset (tangible or intangible), a firm that establishes a simple measure or a complex measurement that factors both quantitative and qualitative attributes of the human capital equation will also have to acknowledge a corresponding human liability. Moreover, measurements for assets and liabilities will be, for the most part, employed at various levels within the organizational hierarchy to value different aspects of human endeavour, as outlined in Figure 1.4.

Figure 1.4 Human capital structure



Perhaps Thakor has one of the most direct and easily understood formulas for valuing people on an individual basis: 'personal value added (PVA) = quantification of dollar benefits produced for the organization by my activities − my wages − opportunity cost of the assets I tied up with my activities'.[9] In Thakor's view, placing the measurement for value in the hands of the individual and providing the tools with which employees can identify, measure and manage their defined contribution to the firm both empowers the individual and gives them a sense of control over their own corporate destiny. When employees and managers negotiate compensation packages, a portion of the human capital structure can be attributed to the individual's PVA. Linking several employees into a group, the relative PVA group can be assessed for group compensation bonus objectives. For example, a group of employees with an annual PVA growth rate of *x* per cent could be rewarded by a team bonus.

Companies often fall below expectations when measuring the human side of the balance sheet when they overcomplicate the process of establishing a value or create measures that are too detailed. In short, organizations should avoid measuring minute details that burden the underlying process that they are trying to value. Measures are more meaningful to the people working within a business process since they enable corrective action to be taken more quickly because individuals can react to information as it occurs. Therefore, one could argue that the starting point for the

measurement of human capital should commence with the individual and the formation of an individual measure of self-worth, or employee value proposition, to which we now turn.

The employee value proposition

> Future things over a period are not estimated to be of such value as things collected in an instant, nor do they bear such a great possible utility.
>
> Giles de Lessius[10]

The fundamental need for employees to establish a value proposition is new. The observation and assessment of the value of labour, however, are not new, and can be traced to numerous examples throughout history. Curiously, there is an interesting parallel between the changing conditions of today's labour market and the realization of employee self-worth and those of Europe in the fourteenth century. Insight as to how shortages, technologies and changing market conditions can affect the evolution of the relationship between our labours and our leisure can be found in an example from medieval history. The Black Death of the mid-fourteenth century was a catastrophic event that ravaged the population of Europe, oblivious of any social ranking, geopolitical boundary, culture or belief. The plague resulted in a dramatic alteration in the relationship between labourers' worth and their role in society. The drastic reduction in population across all parts of society rapidly reduced both the ready labour force and the demand for foodstuffs, goods and materials due to the number of people now missing from society. However, the needs of the surviving population remained at similar levels to the pre-plague economy, simply because people still needed to eat. Moreover, the two far-reaching results of the plague were the sudden realization of individual worth as labours realized they were an in-demand commodity that could command a higher wage, and the fact that within certain social classes segments of the surviving population were the recipients of the largest transference of inherited wealth between two generations in history.

The two factors of labour's new awareness of worth and newfound wealth contributed to irreversible changes in the medieval economy. These factors are important for our current understanding of today's

labour because of the similarities in the fundamental changes that occurred. An analysis of spending, merchant and banking activity during the post-Black Death period from 1350 to 1450, according to Hunt and Murray, reveals that:

> During this same period, there was a rapid transfer of wealth from the older victims of plague and war to younger generations, who had an unsurprisingly pessimistic view of life expectancy. Many were accordingly determined to enjoy life to the fullest while they could and embarked on a spending spree of gargantuan proportions. The resulting surge in demand for luxury goods of all kinds – fine clothing, jewelry, exotic foods and spices – sharply boosted international commerce, especially long-distance trade with the East.[11]

This rise in spending on expensive cloth's and luxurious ornaments by the lower orders of society (including peasants, artisans, merchants and urban wage-earners) led to sumptuary legislation in 1363[12], created to regulate and limit personal expenditures. Interestingly, this rise in demand created labour shortages that led to the realization by artisans that their services were now much more valuable than before. This change in attitude was also reflected in sudden changes in the cost of labour, moving governments to set limits on wages. The government's attempt to regulate both wage rates and spending levels ultimately proved to have only a marginal effect when reviewing the spending habits of the last half of the fourteenth century, as the upsurge in the purchase of luxury goods can be directly attributed to an increase in purchasing power of the surviving population. The change in attitude towards the value of labour was therefore not caused by a sudden organization of labour or introduction of a new technology, but was due to a rapid change to the social–economic structure of medieval society resulting from the massive loss in population.

Technology played a larger role in reshaping the unwritten social contract between labour, value and work during the Industrial Revolution where humankind's ability to leverage labour to produce vast quantities of goods was greatly amplified by new machines. In order to maximize the potential output of machines, work that had traditionally been performed by artisans had to be redefined. Davis

and Meyer note the fundamental corporate attitude which resulted and which persisted until the closing years of the twentieth century:

> The industrial company operated as if labor were another factory part. Men were interchangeable; they turned a wrench every seventeen seconds. This interchangeability made the labor market a buyer's market: Here's the job, take it or leave it. Even when organized labor helped to balance power, union members were a commodity differentiated by seniority, not capability.[13]

In the twenty-first century, business employees can quickly experience the devaluation of their abilities or a sudden revaluation through the rises and falls in labour demand. One extreme example was the devaluation of computer programmers specializing in the COBOL language during the late 1980s, who enjoyed a rapid revaluation of their skills in the late 1990s as corporations scrambled to reexamine millions of lines of software to mitigate problems that might have resulted when the date changed to the year 2000. Labour shortage and shortage of specialized labour occur when the demand for people possessing specific skills exceeds the supply of individuals who are qualified, not committed to other activities, and are prepared to do the job. One could argue that talent is local, and although a local market can become saturated by a specific talent, not all markets for talent can be saturated at all times. The need for talent waxes and wanes because of changing business conditions, the introduction of new technologies or a rise and fall in consumer demand. This brings forth the question: are skill shortages simply talent located in the wrong places and the wrong time?

A perceived shortage in labour is not new, and is often felt by companies that are eager to take advantage of new opportunities only to find that they are unable to take action because of a shortage in local talent. Labour shortages are a direct result of either a lack of people who possess a specific desired talent or a lack of access to a talent pool which can provide the necessary skill. New technologies which are becoming more readily available to business entities large and small as the twenty-first century begins have ushered in new concepts such as the 'virtual organization', 'free agent nation' and 'collaborative co-opetition'. In the emerging new state of technologically enabled business, one of the key functions of technology is to act as a

mechanism which enables people to work together across vast distances. Despite almost one hundred years of practice in using the telephone, it is curious that businesses trying to coordinate their activities still faced problems of geography. However, what computers and the Internet have done to business activities is to transport the tools and information used in the workplace to the worker. This leap in technological capability drastically alters how organizations view labour and production where individuals have come to the realization that in many professions distance work requires adapting to a new lifestyle. The three key lifestyle adjustments centre on an understanding that work activities have invaded home life and personal time such as working on documents in the evening and checking emails during vacation; remote work detaches the individual from co-workers and promotes a feeling of isolation; and individuals realize that they can easily work for more than one employer.

However, there is a downside to this rapid evolution of technology as it creates inflated demands for highly specialized skill sets. For example, this has been acutely true in the computer field as each new programming language is heralded as the latest technological breakthrough accompanied by a miniscule number of people who are proficient in it. The technology syndrome raises a fundamental question from non-technology people: do languages like XML really contribute more to the bottom line than an old language such as COBOL? Interestingly, when asked for an indication of the incremental value of each new generation of technology, the industry falls strangely silent because of the complexity of measuring a similar set of tangible and intangible variables. We seem to believe simply that each new generation of technology represents progress, and as such it must be incrementally valuable. Sometimes this mantra must be remembered the next time you see a group of highly compensated executives huddled around a laptop trying to put together a PowerPoint presentation that would take a skilled graphics person ten minutes to sort out.

In the current business climate, when a labour market tightens and the number of individuals available decreases, businesses are forced to make several key trade-offs, which in turn revalues the skills and talents of the pools of labour that they can draw on as resources. In some cases, a firm must make concessions on the quality of the labour it requires, find a new source of labour, or else invest in

individuals within the corporation to retool them with the necessary skill sets. The underlying problem in any scramble for talent is related, first, to the way corporations view labour; second, to their inability to redefine the social contract between an individual and the value they bring to the organization; and, third, to the way in which firms apply labour. These three factors are exacerbated when coupled with the concept of 'collaborative partnership', in which the lines between what is part of the firm and what is not are no longer discernible. Collaborative partnerships such as those which often emerge between a customer and a supplier provide a means to share knowledge, risks and returns involving each partner. In recent times, collaborative partnerships started forming between traditional competitors as well as old 'friends'. This type of business activity has emerged between competing organizations developing highly specialized software within a specific industry. Companies that are experimenting with this concept realize that the technology itself does not give the firm market differentiation; it is the way in which the organization applies technology and the skills of the people employed to use the technology that are the key drivers of the firm's value added. Organizations in a collaborative partnership that were traditional competitors concentrate on the competition of the technology, not on its implementation. These firms do not worry about giving away or sharing a technology that, in the past, would have been categorized as a competitive advantage, simply because they realize that it is the organization that adds value, not the technology itself.

Corporations often make a misstep when they address these talent-related problems by treating labour in a traditional manner and simply link operations, products and services together with technology. Simply providing talent with an array of communication technology leads to disappointing results. Talented labour now has options regarding where and when it can add value to an organization. More importantly, investors are beginning to realize that talent as a valued asset must be managed in a similar manner to all other assets, requiring both periodic investments and continuous performance measurement. Investors and senior managers are cultivating an acute sense that measurements such as employee retention are as important as recruiting new talent. Another revelation is that highly skilled talent requires regular continuous investment in order to work at maximum

productive levels. In the high-tech industry prospective employees factor into their job-selecting process an evaluation of the corporate community, opportunities for knowledge growth and deployment of technology a company has to offer. This is not a fanciful notion as technology professionals often consider what type of technology the company has to offer relative to keeping their skills marketable.

This leads us back to the central question: what is the employee value proposition? The value of an employee centres on the simple premise that an individual must be self-aware of their contribution to the firm under the present set of business conditions. More importantly, to keep the firm competitive, employees must also be cognizant of the firm's future directions and prepare to add value in new ways under a variety of emerging business conditions. Employees who are aware of their contribution relative to the goals and objectives of the firm are an integral part of a high-performance workplace, which is essential if a corporation is to be agile in responding to changes in economic cycles. The United Kingdom's Department of Trade and Industry (DTI) describes the value relationship in high-performance organizations thus:

> A common characteristic is high levels of employee involvement and regard. They build on the simple insight that individuals are more likely to give of their best if they feel valued and are given the opportunity to contribute their ideas; and that people who are well-prepared for change can help to introduce it and thereby help to secure employment within the business.[14]

The DTI's recognition that there is a distinct difference between high-performance workplaces and traditional organizations raises another important question: how are changes in organizational structure changing the employee value equation?

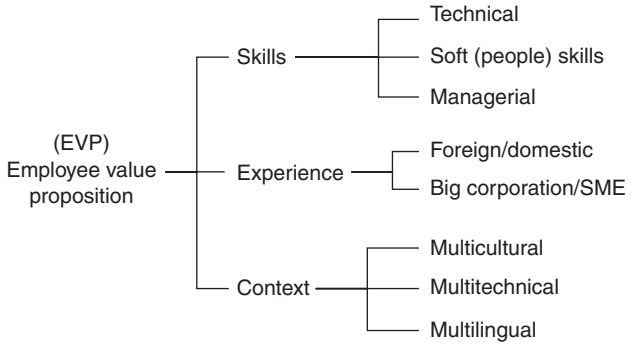
Corporations that have attempted to establish high-performance workplaces without altering their organizational structure, incentive programmes and key elements of the workplace may achieve higher performance for short periods, but in the end they often fail to reach sustainable levels of high performance. In many cases, these organizations provide us with several lessons learned: performance is linked to organizational structure and its inherent idiosyncrasies, such as bureaucracy or employee empowerment, and technology plays a

pivotal role in employee realization of self-worth. It has been argued elsewhere that the structure of the organization dictates the firm's ability to adapt and adjust to changing business conditions: traditional rigid hierarchical structures react more slowly than organizations which have developed into a network of services that are shared between operating lines of business.[15]

Today, corporations recognize that the combination of skills and experience represented by employees is a valued asset. In the past decade, industry gurus and scholars in human sciences have relabelled the administration of people, careers and their associated output 'human capital management'. Contemporary organizations across the globe are recognizing that technology's advance and the increasingly interconnectedness of global labour markets businesses are leading to a transition in the social nature of employment. By the same token, people are realizing that they too have a value proposition not only to a corporation, but also to themselves. It therefore seems only logical that people should develop an inwardly focused value proposition, and that corporations must develop a corresponding value proposition for employees. Unfortunately, even with the new social realization of an individual's value, no comprehensive mechanism has emerged to either measure the overall effectivity of the application of employee knowledge or reflect its overall value as the employee constitutes himself or herself as an asset to the corporation. Donkin observes that corporate attempts at measuring the qualitative and quantitative aspects of human capital have traditionally failed because of the complex and often interpretive task of gauging an assortment of multifaceted variables. In his words: 'There is a simple reason for this. People are complicated. They act in different, often unpredictable ways. Their contribution in the workplace differs too.'[16] In his article, Donkin notes that a consistent corporate behaviour in all firms that were making headway in this area was to drop the term 'human capital' in favour of a perceived less dehumanizing term, 'competency', as depicted in Figure 1.5.

However, what individuals today are realizing, similarly to the aftermath of the Black Death in the mid-fourteenth century, is that technology is ushering in a dramatic alteration in the relationship between labourers' worth and their role in society.[17] Unlike the change in medieval workers' attitudes, which was due to the sudden loss in population, today's workers are embracing a fundamental

Figure 1.5 Employee value proposition



change brought on by technology, which has advanced to the point where information is now the currency of business and is no longer restricted to the traditional confines of any one organization. What is important to realize is that as technology continues to commoditize information and data by making them available to more and more people, the value of an individual rests squarely on their ability to use information to address the goals and objectives of the firm. Twenty-first-century workers realize that knowledge is the ability to place information into a context that enables a firm to realize profit. The result of this understanding is an increasing awareness that applied knowledge has become the more valued commodity, which has manifested a change in the attitude of today's knowledge worker, just as quickly as in the late Middle Ages.

Human capital is often portrayed as a simple one-way process where an employee provides brainpower to accomplish a goal, task or activity, or fulfils the requirements of a process such as customer service. Interestingly, Chattell describes human capital as a two-way interchange that dynamically seeks to add value, continually balancing the goals of the firm with the needs of the individual:

> Human capital is the capacity to create value at all times – not just under the known conditions of the day. For people to grow, they

> must be presented with meaningful challenges, and given room to turn them into possibility-expanding outcomes.[18]

Progressive companies are discovering that highly skilled employees require goals and objectives that bring them personal satisfaction while giving them a sense of adding value to the process of business, the service to a customer or the development of their careers. Today's workers are not satisfied with employers that simply strive to cut cost continuously or focus on optimizing shareholder profits; their activities need to add value in three dimensions: to the firm, to the customer and to their fellow employees. Sutherland, of the Business Innovation Consortium, claims that in order to attract and retain the best talent to remain competitive, global employers must present an employee with a value proposition that reflects the values of the firm. Sutherland argues that an employee's value proposition must balance four key areas of employee concerns: home and family, work to live, work-oriented and reward-orientated. 'Home and family' issues and the concerns of 'work to live' centre on the physical impact of the job on the commitments of the family such as location, flexibility in the work schedule, level of business travel, childcare and clarity in the role itself.[19] Individuals with a balanced work-and-reward orientation are more focused on the attributes of the job, such as how challenging is the work, whether it is cutting-edge, the level of internal mobility, internal equity and performance measurements, and less focused on just compensation. The point Sutherland makes is clear: regardless of the difficulties in economic conditions, corporations must have a continuous influx of talent to remain competitive. One could argue that it is during a time of economic downturn that a firm needs to take action along two lines: the retention of existing highly talented personnel and the recruitment of new talents. The issues of human capital, acquisition of talent and the retention of knowledge are paramount for corporations operating in an interconnected global economic environment because people are now replacing technology as the differentiating force within a firm. When talent suddenly leaves the firm, there is a noticeable degradation in the company's ability to remain competitive. A mass exodus of talent can be seen by sudden drops in customer service levels, late shipments and other measured aspects of the firm's daily activities. This situation becomes exacerbated when the employee goes to work for another global competitor.

As the fundamental structure of corporations changes with new options available to management for access to external sources of human capital such as outsourcing, affiliations and cooperative relationships, capabilities become organized in networks of value as business processes become a connected collection of added partners. The network of relationships between pools of talent can reduce the loss of employee knowledge by acting as brokers on behalf of the employee in an outplacement capacity, relocating the individual within the associated network. This is helpful during a corporate downsizing because it keeps the talent within the extended network. Correspondingly, individuals must periodically evaluate their skills relative to the activities of the business, and proactively acquire additional competences to keep abreast of changes in the business environment. Individuals in a business where processes are linked in a network of value must take on an inward-facing employee value proposition that consists of a portfolio of skills and experiences which can be used in concert within a cell of competency. Using the contextual framework of a personal balance sheet, an individual's skills and experiences are considered assets that have value when viewed together and equated to a core or non-core competency. Competency is both an appreciating and depreciating asset, requiring regular investment in the form of skills acquisition and graduated levels of experience. One could thus argue that the continual changing nature of business in a global environment makes a strong case for corporations and individuals to be continually adding and refreshing skills, thereby mandating a need for higher training budgets.

From a corporate perspective, continuous learning increases the firm's ability to do productive, profitable work, and provides a ready source of applied knowledge to adapt to changes in the competitive environment. One approach to skill development is problem-based learning, which has been used successfully in medical professions such as carotid surgery, human genetics and nursing.[20] Daphne Pan of the National University of Singapore observes that the process which underlies the problem-based learning method has three distinct components: defining the problem and learning the issues; information-gathering and evaluation; and solution-framing and presentation. Using a problem-based method, a learner is engaged in actively solving a problem while simultaneously becoming part of a process of knowledge discovery in which they must make decisions

about learning.[21] Therefore, investments in additional training and education yield a higher return than a simple investment in technology or other capital expenditure due to the nature of individuals' abilities to reapply knowledge to many conditions, often without additional investments. However, the highly skilled worker is more valuable and can easily be lost to a competitor if not properly challenged, as noted by Handy: 'Education sets you free, but erodes your commitment to a place, a country or even an organization'.[22] Highly skilled individuals are no longer bound by geography or corporate affiliation, and they often value quality of life, economic, social and environmental factors at a higher priority, which becomes connected to their choice of company and location. This mobility adds to the challenge of talent retention because highly desired new talent often demands new employee benefits that may not be readily available to existing workers.

Senior management teams in global corporations must meet this challenge by managing human capital assets proactively. This requires a shift in thinking from viewing people as a ready commodity to actively managing personnel as a portfolio of leverageable skills, as Mills notes:

> Globalization often underachieves its value-creation potential in part because firms fail to leverage existing assets effectively. A key underleveraged asset is personnel, a tangible entity that embodies intangibles such as knowledge, effort, initiative, and intelligence. To leverage its human assets, a firm needs a program of motivation that transforms individual elements (such as compensation, selection, and personal development) into a mutually supportive coherent whole.[23]

Human resource groups have two key mechanisms to consider in their attraction and retention strategies: first, the benefits provided to workers and, second, the motivation of the workforce. Mechanisms to motivate employees are often overlooked in favour of providing additional tangible benefits. Benefits appeal differently to individuals at various points in their careers and lifestyles. For example, younger employees find value in transferring to foreign locations, whereas married employees with children traditionally tend to desire a less mobile position to maintain a more stable home environment. Foreign assignments may again become desirable to those same employees once their children have grown and left home. However,

one could argue, given that the world is changing towards a greater propensity for transnational work, that moving the family to a foreign location may provide necessary skills to children that would in turn become more valuable later when their careers begin. The need to balance family and business lives is fundamental in the new business environment. Individuals are realizing that personal enjoyment of work is no longer a fantasy, but a goal attainable when the organization values the individual not simply as an employee, but a performing asset in the portfolio of corporate competency, as observed by The Conference Board:

> Many CEOs observe that people want to feel a passion for the company's work, to become part of a higher purpose than business results alone, and to balance their work and family lives more effectively.[24]

Achieving a sense of corporate loyalty is indeed difficult if one thinks that one's job is in jeopardy with any sudden change in business activity. Employee loyalty is rapidly eroding because of a perceived lack of loyalty from the employer to the employee. Corporations have long identified that training new employees is a significant cost; yet this investment is quickly discounted when the size of the organization must be reduced. In fact, the aggregate loss of value in the human assets of the company needs to be reflected in the balance sheet. Karl Erik Sveiby contends that if the knowledge, skills and expertise that people possess are indeed an asset to the firm, their combined value should be reflected on corporate balance sheets.[25] Venture capitalists have long identified the value of knowledge and skills when they assess the founders of a firm, which is why they demand to know a great deal about the founders before they make an investment. Often the venture capitalists' objective during the early stages of analysis is to get to know the founders individually, to understand how they think and, most importantly, to perceive how they work as a team. Like a start-up company, established firms must also get to know their people better. In companies that are changing their structure in their attempt to become more like a network of linked competencies, senior managers are experiencing a shift in roles, thus becoming more of a resource to internal and external entities and less of a control point.

Chattell identifies one key role for senior management teams in leveraging the employee value proposition: that of the progenitors of meaningful challenges and the resources that reduce the limits and barriers that are generally established by the structure of the organization. Chattell further argues that the key to capitalizing on knowledge assets is to organize knowledge by its relevancy.[26] Knowledge is exploited when it is incorporated into the process of the business and it reaches its highest value when the assimilation of knowledge becomes a quotidian activity of each individual in the firm. A major challenge for today's corporations is that people are becoming increasingly mobile in their careers, often taking with them experience in process, product and customer knowledge when leaving the firm. If employees do indeed have a value proposition to the firm and the organization recognizes knowledge as a corporate asset, then leveraging knowledge assets must be a discernible plan. Exploiting knowledge is a complex activity with no simple, universally accepted method, which is evidenced by the increasing number of books on the subject. However, if one considers that each employee, affiliate or partner of the company is an asset that possesses an intrinsic value proposition, one can achieve leverage by dividing knowledge into three categories, as described by Lipnack and Stamps:

> Cross-boundary groups also generate knowledge capital that exists in all three forms: *inside* people in memory and internal cognitive models; *outside* people in commonly accessible information such as databases; and *between* people as they connect parts and pools of knowledge together and develop enduring understandings.[27]

Organizations operating in a network of relationships must embrace a three-category understanding to develop strategic initiatives that leverage individual knowledge.[28] It is of paramount importance the moment an organization begins to use more and more external relationships to support core and non-core processes. That is to say, knowledge that falls into the first category – that of 'inside people' – is best exploited by using two mechanisms. First, by putting into place a programme that encourages active mentoring in three ways: senior management and highly experienced professionals to junior staff or people that are desiring skills; junior staff or specialized people to senior executives (better known as reverse mentoring); and

peer-to-peer mentoring typically accomplished within specialized areas or line organizations at all levels. Corporations must excel in engaging individuals in such a way that they mentor across organizational and functional hierarchies. Mentoring need not be a complex process. Each person should establish a specific topic, skill, technique or method in which they have particular expertise. The goal should be to fashion mechanisms that will transfer this knowledge to another person within a three-month period, if possible, using a variety of meetings, coaching sessions, technologies, conference calls or just about any communications medium. This mentoring should be incorporated into the normal work schedule as a pure investment in advancing the firm's competency. The minimum requirement should be that each person mentors four people per year, more being obviously better than less.

Let us take for example a multinational company with five subsidiaries organized to produce dissimilar product lines using a central core of administrative and financial services. Each operating group has international production and distribution centres. An individual is mentored four times per year, including mentoring from a peer located in another functional department. In less than two years they will have acquired not only skills that enhance their ability to work within the functional discipline, but also a comprehensive view of the inner workings of the firm, thereby increasing the depth of knowledge on how the firm works. This cross-organizational exchange is vital because it enables individuals to observe the processes, methods, procedures and operating policies of departments external to their line management, enabling them to identify potential intra-company operating synergies.

The second mechanism to exploit the knowledge of 'inside people' is by leveraging the firm's technology-based communications infrastructure. Simply implementing email or collaborative software is not sufficient. Technology should not be used merely as a repository of the company's knowledge and transaction history, technology must generate knowledge to establish a dialogue between employees and/or external partners by facilitating learning, innovation and above all else process improvement. Technology's key role is to coordinate the activities and knowledge of the organization on a global scale. In short, technology establishes the foundation for a network of internal and external knowledge partnerships.

Companies measuring human capital in a network of partners have discovered that the second category of knowledge exploitation, 'outside people', is much more difficult to accomplish. This is because distance, technology and operating procedures often require that this knowledge is made explicit to be easily accessible. In corporations that are operating as linked competencies, knowledge-enhancing technology becomes the mechanism for collaboration and bidirectional activities, and competency and corporate know-how become the means.

Although technologies such as databases, chat rooms, newsgroups and other collaborative media and software components make possible the collection and rapid dissemination of knowledge, organizations have discovered that when knowledge is formalized by technology, individuals often fail to use it optimally or, in some cases, become intimidated by the formal procedure. For example, individuals may become self-conscious about their writing skills which can be viewed and judged by the entire company. Additionally, the capture, consolidation, summarization and distribution of explicit knowledge all require organization, which in many firms is left by default to the information technology department.

When organizations formalize knowledge as an administrative function removed or divorced from the core business process which it supports, knowledge that is used in conjunction with the process remains underleveraged. For example, a consulting organization used a collaboration technology to establish databases on vertical industry knowledge, practitioner knowledge, consulting techniques, methodologies, general discussions, client information, and almost any topic that would benefit consultants by sharing. The first round of implementation was not considered a success because of the lack of input by consultants and the low amount of utilization. When the project was reviewed, managers discovered that consultants were not willing to participate actively because it was a non-revenue-generating activity at odds with their compensation scheme. Financial and career incentives were put in place and the second round of implementation was more successful. However, it also fell short of expectations. A second project review revealed that although the large majority of consultants were now participating and exchanging knowledge at unprecedented levels, the plethora of databases located across the entire enterprise made finding specific knowledge an effort. In the third wave of implementation,

a comprehensive catalogue was developed and a knowledge oversight group was established with representatives from all departments to review periodically how the databases were being used, where they were located, how easy it was to find them, and so on. In the final wave of implementation, knowledge databases were organized around navigation, which came in three forms: a hierarchical structure similar to the organization's structure, a catalogue by topic area and an internal search engine posted on the Internet to aggregate all internal databases. Obviously, the third means became the method of choice. Although this story may scare companies into not creating methods and mechanisms to share knowledge, it must be said that firms operating in a network of value partnership must create mechanisms for the employees to share knowledge smartly and efficiently.

The third category of knowledge capital generation is 'between people', and it is closely linked to the aforementioned discussion on outside people. This category is more complex, as companies enter into operating agreements with external entities supplying specialized value. This raises questions such as how to deal with issues such as cultural biases and languages, and whether one can really expect a consultant, partner or affiliate to part with the knowledge they consider their own intellectual property or an asset of their firm.

Intellectual property and its ownership in whatever form must be an integral part of the employee value proposition. However, intellectual property is now made more complex when knowledge workers and partners bring to the organization expertise that will influence the design, efficiency and utilization of interconnected business processes without having a clear mechanism to transfer knowledge to the corporation formally. Knowledge workers realized in the 1990s that mobility was a key factor in the advancement of salary and position as corporations scrambled for talent. Traditional restrictive geographic employment contracts became ineffective because technology allowed workers to create consulting and contract relationships with distant employers. One issue that has yet to be fully understood by organizations is the ownership or usage rights to the knowledge of an individual as a member of a network of value, which can be transitory. As DiVanna argued elsewhere, this issue raises a number of questions which organizations adopting transnational behaviours, employing knowledge workers and, more importantly,

engaging in partnership will need to address:

- Is the knowledge, experience and wisdom of employees a possession of the employer or is it rented, or perhaps licensed from the employee?
- To what degree is the total knowledge of employee the property of the employer?
- To what extent can employers claim ownership of employee-generated knowledge that is only remotely connected with the employer's business?
- When knowledge workers provide their own office infrastructure (computers, backup systems, filing cabinets), to what extent do employers have access to search or claim ownership of the knowledge contained within the devices?
- What is the level of ownership between the consultant and the new knowledge they acquire while engaged in transient activities within the firm?[29]

Sidestepping a debate on the complex international legal issues that suddenly arise from the new levels of transnational collaboration and integrated business processes, organizations must consider circumventing these issues in an effort to encourage collaboration, not hamstring the firm's ability to compete. One could argue that as business process activities become more transparent, the need to guard corporate secrets becomes less important because the process is no longer the differentiating factor. If you are outsourcing a process to a partner, it is because they already know how the process works, performs and functions. In most cases, they will already be doing it for someone else, hence it is not really a corporate secret.

The single skill that corporations and individuals must grow to embrace the change in business conditions is the adoption of a process orientation, thus placing the customer at the centre of their business processes. This customer focus is necessary for the corporate value proposition because it drives changes in the underlying business processes dynamically in time with the change in customer demand. From an individual perspective, a process focus is the key to establishing an employee value proposition because it gives an individual's skills relevance to generating value that matches corporate goals and objectives. Additionally, corporations that are becoming transnational must create an environment of continuous education and mentoring to improve product quality and reduce the cost of continually attracting talent.

Therefore, the value of the individual becomes a key element in extending the global reach of a firm because it is a resource that can be leveraged and an asset that is readily measured against corporate objectives. Individuals, however, are influenced by their environment, being a product of the social structure in which they reside. How individuals integrate into society, especially when they achieve transnational mobility and elect to relocate to areas that are more attractive to the lifestyle to which they aspire, is an issue that corporations must factor into strategic initiatives and global capability plans. In the next section, we turn to a few of the crucial aspects of a knowledge worker's environment, namely taxation and the social programmes, which play an increasing part in influencing their decisions on where to live and work.

Confusing terms: human capital, knowledge assets, intellectual capital

To someone outside the human resources profession, knowledge assets and intellectual capital sound remarkably similar to the techno-speak uttered by the information technology department, or the legalese spoken by the legal department – complex-sounding words with definitions that require more thinking on the subject of human resources than most people are prepared to spend time on. However, for an organization to place a meaningful value on human/intellectual capital, everyone in the organization must have a basic knowledge of the subject so measurements can be successful. First, let us cut through the industry jargon and establish a few fundamental terms for this discussion, such as 'economic capital', 'social capital', 'human capital', 'knowledge capital', 'intellectual capital', 'knowledge assets' and 'knowledge management'.

Economic and social capital

Economic and social capital present a dilemma for most corporations because they are terms often used by the media interchangeably, and seem far too academic in nature to warrant spending any time to understand the subtleties between the two ideas. However, as corporations embrace the next evolution of organizational structure (that of a network of linked competencies), senior mangers must understand of each concept and how they each influence strategic

initiatives in human capital management. We must consider the interoperation in the use of the term 'capital' to describe the relationship between various activities and assets and the establishment of relationships within a network of value. In Bourdieu's view:

> Capital can present itself in three fundamental guises: as economic capital, which is immediately convertible into money and may be institutionalized in the form of property rights; as cultural capital, which is convertible, on certain conditions, into economic capital and may be institutionalized in the form of educational qualifications; and as social capital, made up of social obligations ('connections'), which is convertible, in certain conditions, into economic capital and may be institutionalized in the form of a title of nobility.[30]

Let us consider that capital by definition is a limited resource and that 'economic capital' simply provides a foundation to attribute capital to the various activities within the corporation. Methodologies such as economic value added (EVA), discussed in Chapter 3, on p. 156, assess the relative value of economic capital permitting a capital allocation to scarce resources on a per unit basis. In the past, one may have labelled 'social capital' as having a membership in the 'old boys' club' in which a person would rely on their personal network of associates to conduct business. In today's business environment, social capital is a network of connections that is established by individuals crossing the internal and external boundaries of the workplace, which requires both management and continual cultivation. The value of an individual's social capital results from investments in the relationships between members of their network that may or may not yield a return on investment within any short-term horizon. Here again, we turn to Bourdieu for a definition of 'social capital' as 'the aggregate of the actual or potential resources which are linked to … membership in a group – which provides each of its members with the backing of the collectively owned capital'.[31] What Bourdieu makes clear is that the ultimate goal of the networked relationship is to capitalize on the relationship at some point in the future: a person, organization or group will find value in the access path to other network participants via any individual network member.

In Bourdieu's view, social capital is also another resource to be used, leveraged and consumed by organizations. Individuals who are members of a social network increase their latent economic capital simply by building links to people (or groups) with higher degrees of influence and/or a greater pool of connections. The interactions between people in the organization establish a set of relationships bounded by shared values, behaviours, trust and mutual understanding, which is the essence of the firm's social capital.[32] Employees with skills and knowledge provide a foundation for the company to do value-added work. Social capital thus enables the cells of competencies to work collaboratively. Corporations can exploit social capital in three distinct ways: internally, by increasing the number of relationships between workers and similar work activities, thereby establishing new connections and leveraging knowledge; externally, by proactively managing relationships with partners, affiliates and others in their network of suppliers, distributors and manufacturing partners; and collaboratively via communities of practice, in which individuals can be encouraged to acquire new skills and/or gain access to additional network connections.

Collaboration is now becoming popularized by technology in the rise of virtual networking groups or special interest clubs who seek out members to participate in networks of common interest. For example, Internet-based networks such as Ecademy, Critical Eye and Cambridge Network base substantial portions of their value proposition to members on the 'potential' opportunities to sell products or services, find a job, and other activities where membership equates to gaining access to other members in the network. Engeström makes an important observation on social capital that must be considered as corporations become engaged in networks of value: 'like physical and human capital, but unlike financial capital, social capital requires maintenance to remain productive. Connections tend to erode over time if people stop keeping in touch. However, unlike human capital, an individual can't cultivate social capital alone: it requires the joint participation of multiple parties.'[33] Social capital can be viewed as the relationships between groups within an organization or the development of intra-firm networks[34] and as a mechanism that spans cross-organizational boundaries.[35]

Nahapiet and Ghoshal define social capital as: 'the sum of the actual and potential resources embedded within, available through,

and derived from the network of relationships possessed by an individual or social unit', conveyed in terms of three dimensions:

- structural – an individual must be self-aware. People must understand that they are part of a network that extends beyond the corporation in many cases. An individual must learn to make connections within the organization and with external cells of competency
- relational – a sense of trust must be perceived by all members within the network: an implicit trust between cells of competencies on the network and, equally important, an explicit trust in the connections between cells and/or individuals in the network. Trust in this instance means conforming to a predictable common behaviour under a predetermined set of conditions
- cognitive – establishment of a shared context between community members when they share a common interest, language or understanding of issues facing the organization.[36]

The value of social capital becomes apparent when corporations collaborate with partners, cooperate with rival firms, and outsource and offshore their core and non-core activities. Social capital is an integral part of a firm's strategy, one which increases in importance as more critical resources for success lie outside the corporation's organizational structure.[37] Therefore, the management of social capital must be a growing concern for senior management as the corporation engages in the rapidly globalizing economy. Some firms employ social capital to make organizational boundaries more permeable, thereby increasing the amount of data, information and knowledge to support core business processes and support activities. Others seek to use social capital to influence outcomes such as tax law and international trade. Like human capital, social capital varies according to the way in which it is used and whether it supports or runs counter to popular social values.

Human capital

In order to place boundaries on our discussion, let us start by defining human capital and its associated management as the combined efforts of all people employed, including their knowledge, know-how and ability to comprehend complex problems and adapt the

activities of the firm as changes in the business environment dictate. Simply, human capital is the skills, knowledge and techniques used by individuals to conduct the business activities of the firm. Human capital has the latent potential (or unapplied knowledge) to address future challenges, innovate new products and optimize the processes within the business. Although most management teams believe that there is a latent potential within the firm, organizations rarely try to quantify it, relying on people to 'rise to the occasion' as needed by the firm. This *laissez-faire* approach often places the firm at risk when competitive pressures generate a sudden demand for innovation in the form of a new product or service. Without a clear understanding of the latent potential of the firm's human capital, many organizations are forced to look outside the company to consultants to fill the intellectual shortfalls of its staff. Therefore, we can define 'human capital' as *the current skills, knowledge and techniques of the people employed and the potential of those employed to innovate, adapt and transform the business activities to a future operating state*. The first part of the definition addresses the aspect of human capital, which can generally yield the greatest short-term value and naturally is easiest to measure. The future value of human capital in the latter part of our definition is the harder challenge. Our point of view is that many companies tend to focus their human capital assessments on their current skills and processes. Not surprising since is relatively easier to measure. Consequently, they overestimate a firm's human capital value by either not rigorously testing its adaptability to future scenarios or optimistically assuming their current skill and knowledge base will hold its value in the future.

The Organisation for Economic Co-operation and Development (OECD) describes 'human capital' as the 'knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being'.[38] This definition of human capital extends beyond those capital assets contained within any given organization. Human capital here is linked directly to productivity, encompassing factors that reflect the broader values associated with a healthy, well-educated population. When the focus moves from international development to a national focus the measurement changes. Canada's National Round Table on the Environment and the Economy (NRTEG) has developed the Human Capital Indicator, a tool which measures the percentage of the

working population (between the ages of 25 and 64) which has achieved upper-secondary- and tertiary-level educational qualifications. In other words, this indicator tracks the proportion of people who have achieved at least a university bachelor's degree, or a diploma or certificate from educational institutions beyond the secondary level. This indicator also includes individuals who have earned certificates below the bachelor level from a university.[39] The Canadian organization's efforts make it clear that continued education is a primary factor in growing and maintaining human capital. The intrinsic relationship between education and the value of human capital is also undergoing a transformation as corporations continue to assume larger roles in education. However, macro-level management in reality does little to assist corporations in addressing the issue of applied measurement. Bringing human capital measurement down to the corporate level usually results in more of, a focus on employee skills, beliefs and behaviour. Most employees value how they impact their own firm's standing or the firm's customers. Few people can envision how their daily actions will alter a macro-level measurement like the Dow Jones Industry Average (DJIA). Yet on several occasions we can see evidence such as when a rogue trader, failed contract or other action receives media attention thus triggering a cascade within the industry sector, altering the DJIA.

The base rather than the height of the HC measurement pyramid is the key. Tom Davenport suggests four building blocks for human capital that generally resonate with both management and line employees: knowledge (command of facts), skill (ability and means to develop a task, often product of experience and practice), talent (the valued inborn facility to perform a given task efficiently) and behaviour (observable ways of acting within the company so as to complete a given task).[40] Establishing a firm wide understanding of these four basics in the context of your own firm today and what will be required in those four areas in the future is the essential first task. It is also a task that will require the firm to regularly revisit these definitions and future assumptions and affirm or adjust them.

Knowledge capital: the example of medieval guilds

There are two basic kinds of knowledge in a corporation: tacit knowledge and explicit knowledge. Tacit knowledge is extremely difficult to explain or write down; it is often knowledge that people do not even

realize they have. Tacit knowledge is what a retail buyer has when they 'just know' that happy faces or pink poodles will be hot this year, or when a machinist instinctively feels that something is not right with the equipment. It is this 'sixth sense' about how to sell an idea to the boss or simply knowing how to touch-type without thinking about it.

Explicit knowledge, on the other hand, is that which can be captured, explained in words, traded or sold (for example, a corporate mission statement, an operations manual, a sales script or a manufacturing procedure). This knowledge remains with the company after an employee leaves. Companies have to make tacit knowledge explicit if it is to be formalized, examined, improved or shared, and thus turned into an asset with added value.

Human capital grows when a corporation uses more of employees' knowledge or when more employees gain knowledge that is more useful. Therefore, a company's ability to capitalize on its employees' ideas and know-how and its commitment to training and education enhances productivity and adds value. For example, to grow, distribute and integrate more of their employees' knowledge, General Electric created its 'Work-out' programme, a perpetual series of 'town meetings' at which employees present ideas for improvement and managers are required to evaluate those ideas. It is a verified way of acquiring ideas in an environment which is protected from personal rejection, politics and added layers of bureaucracy.

Perhaps if one is looking for the best practice on the management of knowledge capital, they should consider the art of construction by medieval masons. In Europe, castles, cathedrals and town walls endure as physical and tangible evidence of how society and organizations can gain and lose knowledge and understanding. Unlike other forms of capital, the value of knowledge capital diminishes over time. Specific elements of knowledge are, in many cases, highly dependent on a specific technology. Skills and knowledge needed to apply specialized skills (such as technological skills) to a given task are transitional in that, over time, the actions required to accomplish the task will change due to advances in technology or other external factors, such as the development of a new technique. During the Middle Ages the development of skills and the transference of knowledge were not assumed. For example, under the medieval guilds system, learning (although not formalized by today's standards) was

a deliberate act made possible by mentoring under an apprenticeship model.

When looking at medieval buildings through modern eyes, we are often perplexed by the scale, size and mass of these structures, often asking ourselves how the allegedly simple-minded, non-literate people of the medieval period managed to erect such massive structures with seemingly limited technology. It has been argued elsewhere that medieval masons and master builders by today's definitions were more sophisticated than our modern equivalents simply because they had the same problems of technology, labour and materials that exist today in addition to an illiterate labour pool, a lack of communications technologies and poor logistics support.[41] Because medieval buildings survive to the present day, they provide a mechanism to understand many facets of how they used and applied knowledge, or what we would today call 'knowledge capital'.

In attempting to understand 'knowledge capital', a question we could ask ourselves is why European builders of castles, cathedrals, town walls and other medieval structures used stone and not concrete as was previously used by Roman engineers. Concrete offered advantages over stone (it was cheaper to produce, easier to handle and required less specialized skills (no stone carvers) and less labour). As the Roman Empire declined, so did the applied knowledge of concrete. During Europe's Dark Ages and throughout the medieval and Renaissance periods, the knowledge of concrete and its applied use fell dormant until it was rediscovered in 1824 by Joseph Aspdin, a bricklayer from Leeds in England.[42] Seemingly, the knowledge of concrete and its applied use was lost from the collective intelligence of builders for almost thirteen centuries.

The construction knowledge used by medieval master builders developed over time by a process of trial and error. During the Dark Ages master builders and masons (perhaps all medieval trades) learned techniques, methods and new applications of stone, slowly accumulating a vast understanding based solely on empirical knowledge. Knowledge management, although not as systematized as today, was indeed complex as a mason learned not simply the techniques of the master mason and other masons in the guild; he also acquired new techniques while working in distant lands. This can be seen in the medieval builders' adoption of the pointed arch after the knowledge was acquired during the crusades. As

Marjorie Quennell, a specialist in late medieval history, claimed:

> In the mediaeval period the arts and crafts were much more representative of the whole community than they are now. The craftsman learnt not only the practical details of his trade, the way to use his tools, and to select materials, but was taught as well to design his work; and all his fellows did the same, working together on much the same lines – all interested in doing good work, and trying to find better methods and designs. All this accumulated knowledge was handed down from generation to generation, and formed what we call tradition, and it resulted in the work being extraordinarily truthful. The man in the fourteenth century was not content to copy the work done in the thirteenth, but with all his fellows was trying to improve on it; so if we have sufficient knowledge, we can recognize the details, and say this place must have been built at such a date.[43]

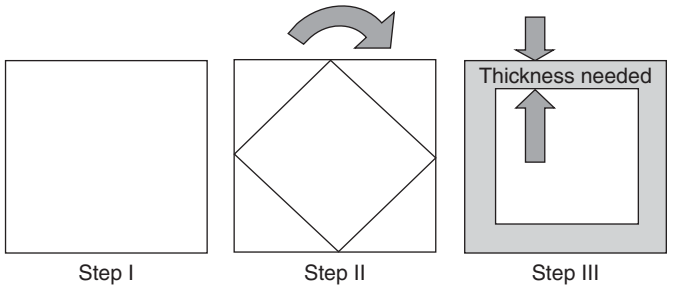
The real knowledge capital of medieval masons and other craftsmen was the development of an in-depth knowledge of the total process of stone construction from quarrying, shaping, shipping and carving to installing and finishing, becoming proficient in each before he could be called a master. Knowledge was a product of their mentored apprenticeship. Process knowledge was understood as a natural part of building for centuries until the Industrial Revolution. The benefits of this empirical knowledge base was that it provided master builders with enough knowledge to push the technology of the day to its design limits, making castles complex weapons and constructing cathedrals higher and higher with ever-widening expanses of glass. The sophistication and comprehensiveness of the medieval builders' knowledge are not to be underestimated. Medieval master builders knew more than how to chisel stone; they had a commanding knowledge of design, logistics and project management, possessing secrets that have been lost in the post-industrialized society. In contrast to the popular belief that medieval buildings took many centuries to be erected, invading armies making frequent visits proved to be a valuable motivation resulting in many castles being built rather quickly. However, this motivation alone does not explain how the master builders could design such complex structures without

computers, organize and manage labour (guilds, that is, masons, carpenters, ox carters), provide logistical support locating raw materials (supply chain, including feeding the workers) and act as the interface to the lord or sponsor (top management) of the structure. The secret is in the master builders' approach to the problem of building in itself – simplification, innovation and high-quality skills – in short, in the knowledge management involved in the process.

During the Middle Ages, it was common for a master builder to have several construction projects occurring simultaneously and without the use of sophisticated technology (such as today's computers and other logistical scheduling techniques). This raises the question: did master masons possess a certain type of knowledge that is now lost? More importantly, did masons manage knowledge in a way that is so fundamentally different from today's that it can perhaps be used as a model for today's workforce?

The secret of knowledge management of the medieval masons lies in their codification of techniques and distribution of knowledge to peers and apprentices. First, builders reduced the complexity of design and construction by simplifying the way in which a structure is built. For example, calculating the thickness of a wall was not a complex mathematical exercise; masons and builders simply used a method that represented years of knowledge based on trial and error with regard to the relationship of the mass of materials to its ability to stand. Using a piece of string, they would stake out on the ground the overall dimensions of the structure as seen in Figure 1.6. The second step was to fold the string in half and mark the centre points on each

Figure 1.6 Calculating the thickness of a wall



wall. Next, they stretched the string to each one of the centre points forming a diamond inside the original square. The third step was to rotate the diamond inside the original square until the corners of the diamond were aligned with the corners of the square. The distance between the inner and outer squares is the required thickness. Master builders and masons established simple rules which could indeed be passed on to and performed by any number of craftsmen who were engaged in the construction. Remembering that very few people were able to read or write in medieval times, their designs were converted into principles which did not require continual commendation of specifications. Master builders resembled our contemporary ideal of a leader working with empowered teams. They did not micro-manage the activities of individuals, as they did not have the time. The master builder defined the end state or objective and provided a guiding hand in the specification of key details but delegated the execution of many aspects of construction to the heads of the various guilds. This was an easily taught, easily learned method of calculating wall thickness, one without which no work could be done. The importance of the task was not only understood by senior masons or master masons; everybody had to learn how to do it, thus reducing the need for great amounts of supervision.

The intellectual capital of the medieval builder was his approach to project management, which incorporated new ideas into the structure during construction. Medieval master builders were rarely satisfied with replicating previous designs. Each structure carried a unique signature of design which now acts as a snapshot of their intellectual property during each year of construction. Unlike today's construction industry, in the Middle Ages it was common practice for master builders to work under fixed priced contracts, as can be exemplified in John Wastell's contract when building King's College Chapel in Cambridge.[44] One could argue that the fixed priced boundary stimulated medieval builders to optimize their intellectual capital by continuously applying innovative techniques, methods and designs. From their perspective, innovation and intellectual capital were employed in three ways: to reduce time or cost of construction (what we now call process optimization); to increase the standing of the guild (brand identity); and as a mechanism to secure additional funds for embellishments which increased the stature of the structure (customer appeal).

The methods of management of human and intellectual capital in the Middle Ages are important here because they mirror problems and issues which are still relevant for corporations. The medieval work environment is analogous to today's contemporary empowered teams indicating that if an organization elects to adopt a process orientation to business, worker education is integral to achieving the desired levels of output. Considering the complex nature of managing a medieval building project which included locating raw materials, coordinating logistical activities, managing large labour groups consisting of professional guilds and common labour and, in many cases, providing foodstuffs, the medieval master builder was faced with a difficult task. This command of managing people, process and materials often at breakneck speeds (for example, building castles for protection versus longer-term cathedral-building) brings to mind one central question: what did medieval builders know about project management that we do not know today? Since the medieval builder was unaided by a computer or calculator and rarely used paper, did they possess knowledge of project management and logistical coordination that may have been lost when society shifted to the assembly-line compartmentalization approach to projects? One could argue that similar to the disappearance of the knowledge of concrete for thirteen centuries, the master masons operating in the later medieval periods may have developed and possessed an in-depth knowledge of process-based project management that is no longer present in today's society.

New skills and old skills

The development of new skills and the process for upgrading the knowledge of existing skills has two distinct aspects: investment in people by the corporation and initiative by the individual to proactively manage their career. Although cutting the training and education budget appears to be the first step in cost-reduction efforts, corporations take a short-sighted approach to maintaining a competitive edge unless they consistently invest and reinvest in skill development. Subsequent reinvestments in training, mentoring and education keep employees' skills on par with current business activities and give individuals a foundation for personal and professional development. With increasing frequency, corporations are making long-term investments in skills and knowledge development by

providing access to education, seminars and conferences that are not directly applicable to an employee's immediate job function or task to establish an underpinning of knowledge that will be required in the future endeavours of the firm. Corporations that send their employees to obtain higher education degrees such as MBAs are betting that a general learning experience will both help the individual and the firm in responding to future developments. Equally important is that they are assuming their commitment to training will make them more attractive employers to current and future employees.

However, efforts by corporations constitute only half the equation; employees must manage their careers with an eye towards the future by assisting the corporation in the identification of the skills required to capitalize on new business opportunities. Sadler observes that career self-management is due to fewer and fewer corporations offering long-term employment and individuals coming to realize that they can no longer sit and wait for companies to develop their talents.[45] In many cases, the personal acquisition of new skills and knowledge is often hampered by lack of time because of lifestyle demands, such as family or financial constraints. Individuals may not have enough disposable income to pursue advanced degrees or specialized technical skills, or attend knowledge-gathering events such as seminars and professional conferences. Fortunately, these two constraints can often be circumvented by employers who provide employees with access to training funds or student loans and offer flexible working schedules and time off for educational activities.

With the advent of the Internet, another alternative has emerged where individuals can participate in long-distance learning or mentoring. Organizations such as the ApprenticeMaster Alliance, launched in 1994, link apprentices with masters who are willing to train in a specific expertise in arts such as stonemasonry, woodworking or event management, to name but a few.[46] In business circles organizations like MentorNet, run by the College of Engineering at San José State University, link mentors and apprentices with specific technical and scientific skills.[47] MentorNet's mission is to further women's progress in scientific and technical fields where they remain under-represented using a dynamic, technology-supported mentoring programme that provides protégés with mentors to facilitate entry into scientific and technical careers. The message for corporations is

that apprenticeship programmes and general mentoring are most effective when they provide timely accurate feedback to the apprentice, include lifelike situations that require decision-making, present ambiguous situations that permit problem-solving, and above all challenge participants as an integral part of the learning process.[48]

Another example of a rapidly forming community of practice that resembles a medieval craft guild is the eLearning Guild[49] whose members are designers, developers and managers of e-Learning, representing a diverse group of instructional designers, content developers, web developers, project managers, contractors, consultants, and managers and directors of training and learning services who work in corporate, government and academic organizations. Just as in a medieval guild all members share a common interest, in this case the process of computer based e-Learning design, development and management. With a membership of 12,035 as of April 2004, they apply their professional skills and share learning in corporate, government and academic environments.

The majority of today's businesses have inherited their structure, processes and management from thinking that occurred in the post-industrial period. Concepts such as the division of labour and the application of labour to tasks, using methods which divide and subdivide activities similar to an assembly line, are an attempt to create easily understood components in order to systematize work for automation. In order to circumvent the limitations of traditional corporate structures, mentoring can be used to cross internal organizational boundaries. Mentoring can be employed to enhance a firm's knowledge capital, as we will discuss in Chapter 2, on p. 72. However, what is important here is the idea provided by Klasen and Clutterbuch, according to which the criteria for a successful development of mentoring as a key component to knowledge management are to: define objectives, define a beginning and an end to the mentoring relationship, measure outcomes, balance formality with informal learning experiences, reward participants and, most importantly, commit time.[50]

Knowledge assets and knowledge management

Davenport and Prusak make an important point that the idea of knowledge management is not new; it is not realized by a specific technology such as collaboration software, nor is it accomplished by

accident: 'knowledge management draws from existing resources that your organization may already have in place – good information systems management, organizational change management, and human resources management practices'.[51]

Knowledge capital is only valuable to those firms which can manage it, thus putting it to good use. This sounds like an oversimplification, but it is often the case in organizations large and small that highly skilled employees are recruited for specific tasks or projects and then rarely used beyond that capacity. However, companies are realizing that to tap the unused talents of the firm, they must become knowledge-centric in their approach. If knowledge is viewed as a process like any other aspect of business, it follows that there should be four distinct activities forming a continuous learning cycle: acquisition, application, dissemination and refreshment. The learning cycle enables the firm to compound its knowledge base in two ways by continually gaining new knowledge and distributing new thoughts, concepts and ideas throughout the firm, creating a learning organization. In Loh's view: 'A learning organization should not just be an organization skilled at creating, acquiring and transferring knowledge, it should also be an organization that modifies its behaviour to reflect new knowledge and insight.'[52] Likewise, on its own, 'intellectual capital' has no real value. Like any other asset, it only becomes valuable as a result of two key factors: a process which extracts value by making it applicable to a specific business process or discrete activity such as a production line or service, and a process which manages the creation, growth, retention and distribution of knowledge as it is applied.[53]

In Sadler's view, knowledge is a key factor in production having three distinct attributes: it cannot be used up, knowledge as property is hard to protect, and traditional accounting practices are useless when attempting to quantify the impact on knowledge on wealth creation.[54] The most important aspect of Sadler's view is that knowledge is not used up or exhausted. Knowledge capital can be leveraged across an organization because it is easily replicated to many people simultaneously without the risk of depleting it. Specialized knowledge can become outdated or lose value over time, but it is not reduced when copied or transferred to additional people. Corporations understand that the majority of corporate knowledge is trapped in the heads of middle-level managers, front-line personnel and administrative

staffs who simply do not have the technology, time or incentive to leverage what they know.

Intellectual capital

Brooking defines intellectual capital as the 'combined intangible assets which enable the company to function', simply, the sum of the firm's tangible assets and intellectual capital.[55] Edvinsson and Malone refine that definition into a company's intellectual capital comprising human capital (individual capabilities, knowledge, skill and experience of the firm's talent), structural capital (intellectual property, methodologies, software, documents and various other representations of knowledge acting as the firm's supportive infrastructure) and customer capital (client relationships).[56] Within the latter definition, it is important to note that structural capital is subdivided into organizational capital (signifying investment made in systems, tools and the codification of an operating philosophy for the distribution of knowledge), innovation capital (in the form of protected commerce rights, intellectual property, and other means of introducing new products) and process capital, which is work processes, techniques and employee programmes used in the delivery of goods and services. Stewart takes this model further, arguing that corporations are undergoing a fundamental redefinition as the primary means for generating value shifts from physical assets towards knowledge and intellectual assets.[57] Corporations are reducing their dependence on physical assets because they now realize that intellectual assets have the distinct ability to leverage physical assets beyond the previously set levels of productivity. Simply, if one implements computer systems in two identically equipped company environments that compete against each other, the competitive advantage and market differentiation found is the result of how these systems are used to generate benefit to a customer. In short, people and their associated talents use these systems in different ways, applying their combined knowledge towards problems that arise using a variety of approaches, each in turn adding value in a distinct way. In 1989, Sveiby raised a point, often overlooked in our contemporary views on this subject, which is still valid and one could argue is even more relevant today, that of management capital.[58] Sveiby's observation has been downplayed during the rise of 'free agent' approaches to talent utilization; however, its importance often separates successes from failures as

witnessed during the dotcom boom–bust cycle. Talent, organization and process are not enough to guarantee success; management orchestrates the capital of the firm under a formula that generates value.

On a more macro scale, the Danish Trade and Industry Development Council rightly points out that the interest in intellectual capital accounts at the societal level, which is to ease access to knowledge and capital, is substantially different from corporate interest. Corporations view intellectual capital as the bridge between the firm's present and future, providing a foundation for motivation towards long- and short-term objectives. For corporations, intellectual capital is a process that brings together intangible assets such as employee knowledge, organizational operating knowledge and customer relationships with each other and with the tangible assets of the firm. This perspective portrays intellectual capital as a process in which assets interact and, under a catalyst of additional investment or other motivating factors, intellectual capital yields innovation in the form of new products and new or more expedient approaches to the processes within the firm. Intangible capital managed carefully has the inherent ability to leverage other types of corporate capital. Simply, the knowledge held by people within the organization when combined under the right set of conditions enables other types of capital to be more productive and efficient. In the words of the Danish Trade and Industry Development Council: 'The financial capital represents the book value, whereas the intellectual capital refers to the future through a presentation of the company's growth basis.'[59]

As said above, knowledge capital has little value unless it can be applied to specific tasks and activities organized as a process or what has been traditionally called work. However, the nature of work is also changing, affecting the ways in which knowledge capital is generated by the organization, used by people and leveraged with technology, which is the subject of the next section.

Rethinking work, skills and the application of talent

There is an old arabic proverb which states 'I complained because I had no shoes until I met a man, who had no feet.' It is interesting to see people complaining about bureaucracy when they are in a big

company; then, when they move to a small start-up company, bureaucracy is the first thing they try to reestablish. For decades, people in large organizations have realized that a firm's bureaucracy acts and reacts almost as if it were a living entity. Bureaucracy and the controls placed on business processes only exist to ensure that people's activities are executed within a set of parameters. The intention of most bureaucracies is to regulate human behaviour within a process to achieve consistent and predictable results. Business processes are created to fulfil a product, service or component only to evolve into a more complex number of steps over time, as exceptions occur and special requirements emerge for specific customer requirements. In all corporations, time and a changing set of business conditions conspire to make business more complex, adding process steps, checks, control points, administration and many other costs. One could argue that the vast majority of corporations missed a great opportunity to rethink their business processes and systematically strip away years of complexity when they ignored or simply rejected the premise of reengineering offered by Hammer and Champy during the 1990s.[60]

Firms often squander human capital opportunities when they hire new talent or bring in consultants aiming to revolutionize the firm's business process, products or organizational structure, only to frustrate the individual by circumventing a new process design due to the organization's inability to accept new ideas and approaches to work. For example, in the mid-1980s several US speciality steel mills attempted to implement manufacturing resource planning (MRPII) techniques to align themselves with an emerging customer trend, that is, ordering steel components orientated to a single job or contract. This trend was counter to the traditional method of single-type long-run production. The change in customer behaviour set in motion a fundamental rethinking of how speciality steel mills should produce components, realign product activities, reorganize labour, retool productive technologies and alter administrative support work such as billing and order entry. At that time, computer technology enabled the organization to adopt the concept of smaller production runs with tighter inventory controls and production-cost accounting by project. However, the production organization for the most part was not trained or reeducated to the new approach, and consequently challenged the implementation at every

opportunity, ultimately resulting in a significant loss of productivity and profits.

The talent equation is also influenced by a firm's ability or inability to recognize the redefinition of the social contract between individuals and organizations that is taking place in today's developed economies. Individuals are no longer content with merely doing work and receiving compensation; knowledge workers and a growing number of professionals want to be valued for their direct contribution to and indirect influence on the bottom line. In short, people want to be assured that the work they do indeed matters; the work progresses and the firm moves towards defined goals and objectives. Individuals engaged in business processes look towards satisfaction in their work and a general feeling that they can directly change a process for efficiency, generate higher production volumes, retool with new technologies or simply reformulate the work within their area of expertise without management intervention. Individuals in administrative and support roles want to feel part of the process in which they supply direct or indirect services. In many cases, people in a support role can provide valuable input, because they look at multiple processes and therefore develop a more holistic view to a given problem.

Over time, as workers become more engaged with the business processes they develop a sense of ownership of the production and output of their efforts. Our traditional view of business activity as divisions of labour, functional organizations, hierarchy and standardization is now in the process of a fundamental redefinition. Acting in concert with the new attitude towards work, these four factors influence working conditions (for example, the environment, style of managers, worker empowerment, and other various aspects of rules imposed on work activities). Likewise, the relationships maintained by the individual (for example, internal relationships such as mentor/apprentice, co-worker/specialist and superior/subordinate, and newly forming external relationships such as customer/supplier, teacher/learner, colleague/competitor) and organizational behaviour (for example, the social atmosphere labelled 'corporate culture', typically a product of layers of bureaucracy) change. Today, corporations must alter the work environment to encourage knowledge-sharing in a network of functionally aligned teams. As teams focus on core competencies, the corporation must introduce a process of continuous

learning as a catalyst for innovation. Human resource managers and senior executives must work together to manage a corporate culture and proactively build corporate loyalty and *esprit de corps*. The retention of talented individuals is the product of a good management team manifested in the corporate and corresponding environment in which employees find fulfilment in their work. However, achieving this state is rarely easy, as many organizations, as they grow and mature, become simply a collection of loosely coupled activities encased in a hierarchical structure which becomes more rigid over time. In order to combat these traits, companies must embark on a three-stage transformation so as to rethink work activities and the application of talent: retrench, regroup and redeploy.

When corporations decide to rethink the work they do, the activities they perform, and the organization of their primary and secondary processes, they are in fact 'reengineering'. What corporations often fail to take into consideration is where they are in the business cycle and how intellectual capital is applied to business processes differently. For example, at different times in the business cycle (upturns and downturns), applied knowledge yields distinctly different results. Additionally, the knowledge used in the optimization of production is completely distinct from a process of innovation. Al-Ali points out that intellectual capital must be managed differently depending on the function or role it plays in the firm's cycle of business.[61] In Al-Ali's view, intellectual capital must be grouped into resources, processes and products where the relation between them is made clear for the purposes of management. Intellectual capital, regardless of form, is the foundation for all core and non-core competencies.

Ownership of knowledge, knowledge capital and intellectual capital becomes increasingly blurred as we move into more complex multi-corporate business relationships. In particular, outsourcing creates specific problems not just in knowledge ownership but also in the fundamental understanding of employment. Individuals in an organization who witness outsourcing first-hand may be more reluctant to share knowledge, fearing the loss of their job. The inherent erosion of loyalty between employer and employees presents a new set of problems for senior management teams eager to recruit new talent, as noted by Micklethwait and Wooldridge:

> Focusing on core competencies might mean outsourcing peripheral employees, but it also means creating a core group of long-term

> loyalists who are committed enough to the firm to transmit its ethos to new employees. Firms may not be able to offer people jobs for life, but most companies go out of their way to offer people employability.[62]

In the new relationship with labour each employee should be treated with the same basic understanding as that required when entering a partnership, affiliation or association with another firm. In fact, one could argue that as companies will be increasingly developing associative agreements with external firms in the new global economy, treating employees as if they were an equal source of talent in the end would simplify the total amount of agreements and contracts to manage. Employees would simply have miniature versions of the larger agreements, and the depth at which they are linked to the firm would become relative to the value they add to a specific process. Plainly, individuals that have the highest contribution would be linked to the firm in the same way as a partner; people who add value to specific process areas may be affiliates; whereas highly skilled individuals only needed for specific tasks might be considered associates. These relationships are all predicated on an organization addressing the third facet of the workforce equation, which is the application of labour.[63] As the corporation engages in more externally sourced relationships, developing teams becomes inherently more difficult as each external source or, in the case of large transnational corporations, each operating group must maintain dual responsibilities, one to the project or contracted business activity and a second as a profit/cost centre to their own organization. Team relationship-building is in itself a key skill that today's project managers and process managers must master.

Building team relationships

In order to understand building team relationships, we will examine the teams from three perspectives: the team builder, a team member and the team support function. These three views are instrumental in rethinking the application of work simply because in most corporations embracing multi-organizational teams for primary business processes requires a radical restructuring of compensation systems, employee education, process knowledge, contractual obligations tied to performance measures, and operational risk. For the team builder, who in many cases is a process manager or is responsible for a discrete

activity within a core business process, there are three key objectives: establishing a team, building a network of relationships and achieving optimal performance. Establishing a team requires an in-depth knowledge of a business process, identification of primary and secondary tasks and a clear understanding of the metrics which control process input and output. So to build a team which will become a network of relationships, the leader must first increase the team's self-awareness of elements of the team's working culture, such as mastery of the activities and tasks, individual attitude, personality type and ways of working. Second, the leader must furnish practical interpersonal and relationship management skills such as listening, building rapport, managing meetings, giving and receiving feedback, negotiation, and above all demonstrate that they are a resource to be used by the team, not a control point. For individuals working on multi-organizational teams, the development of interpersonal skills forms the foundation for creating and maintaining strong relationships. The introduction of multi-organizational teams complicates the process of assigning value to the human equation of business and its representation on the balance sheet. This added complexity raises the question of how the structure of the organization should be represented on the balance sheet: that is, are traditional hierarchies more or less valuable than networked cells of competencies?

In order to represent the human element of the organization as a measure of value, clear definition of several key terms to properly describe the work and skills and the application of talent to core and non-core process activities is required. The definition of key terms is essential because it compels managers to clarify the core activities of the firm and, equally importantly, how talent should be applied to support business processes. As organizations restructure themselves from a hierarchical structure into a linked network of value added-contributors, the role of management, what constitutes a competency and a clear understanding of human capital become essential to interpret and control a business process as it spans organizational boundaries. To begin, Ferguson reminds us that the role of management is changing from a foundation of command and control to an ongoing agent of change acting as a catalyst engaging the organization at three levels:

> The role of senior management is to set broad goals for the organization, instil a unifying culture and act as a catalyst. This group

> is responsible for a consistent vision and the general direction in which the organization is to develop. Middle management plays a key supportive role: encouraging communication, providing cohesion, fostering trust and facilitating the sharing of knowledge. Frontline managers are expected to adopt an entrepreneurial role, identifying and pursuing new opportunities.[64]

Just as management interacts with business process activities on a variety of levels, competence must be understood within a macro context to supply a value to the balance sheet and at a micro level to be applied on an individualized basis. Once again, Ferguson provides us with an insight which identifies the common elements of the macro and micro levels of competence:

> Element of human capital. Attributed to teams. The result of combining individual skills, influenced by synergies, culture and governance structure. A core competence is a constituent of the strategic core. Non-core competencies are of average quality and not unique to the organization. No competence is of inferior quality.[65]

In Ferguson's view, organizations are comprised of core and non-core competencies, or they have created a condition in which an essential component to make them competent no longer exists or is yet to exist, creating a condition of incompetence. Incompetence exists through a sudden reduction of the workforce, where skilled people have simply left the firm or a product innovation has created a new set of activities in which the existing workers do not possess the skills to perform the necessary process activities. Macro-level competence is simply the combined skills, capabilities and experience of the firm to perform core and/ or non-core process activities to a degree of quality that is valued by the end customer. In some cases, an organization may be technically competent in core activities such as the production of an automobile, but the quality of the output may be lower than customer expectations. This occurred, for example, with US automobile production in the 1970s. Customers reacted to this by rendering the production valueless and seeking new sources, as witnessed when US consumers began buying higher-quality Japanese cars. Therefore, a company can be technically competent

but functionally incompetent in meeting customer expectations. At an individual level, competence comprises motives, traits, concepts, attitudes or values, content knowledge, or cognitive or behavioural skills. Hooghremstra rightly points out that competencies such as content knowledge and behavioural skill can be taught cost-effectively, while changing attitudes and values is difficult and expensive.[66] In Hooghremstra's view, employees should be hired based on core motivations and other character traits, and then be recipients of corporate investment to build knowledge and skills, noting that most employers do the opposite, that is, they hire based on credentials such as university degrees and previous experience.

When an organization achieves a high degree of competence in activities that are directly associated with the fulfilment of core process requirements or the tasks needed to support core processes, they can combine core and non-core competencies within the governance structure of the firm to form a capability. Perhaps Ferguson's description of a capability provides the best definition for our purposes:

> Element of human capital. Attributed to an organization. The result of combining competencies, influenced by synergies, culture and governance structure. A distinctive capability is a component of the strategic core. An ancillary capability is of average quality and not unique to the organization. No capability is when the organization's performance is of inferior quality.[67]

Ferguson argues that a corporate capability is derived from achieving synergies between the people who possess the skills required to perform the tasks and the organization's culture and structure. Achieving operational synergy becomes increasingly difficult when operating multi-organizational business processes and presents yet another problem for representing the value of a firm's capability on the balance sheet. However, the modular approach that dissects core business processes into discrete functions that can be classified as capabilities provides us with a method of value in which internally provided resources can be categorized separately from externally provided capabilities. This becomes apparent during outsourcing or offshoring resources to core and non-core business processes. Organizations assigning a value to their capabilities can quantify

internal and qualify external capabilities separately with notes to the financial statement to indicate the added value provided to the external source such as the underlying value of the process knowledge or specific technical know-how needed to design the process steps in contrast to the value of the knowledge required to execute the tasks. Ferguson also makes a good point noting that the governance structure of the organization is an integral part of any established capability; without structure, the value of activities is negligible. Simply, the governance structure provides the context in which the capability must function to have a perceived value.[68]

People within a corporation, especially large companies, often confuse governance with command and control. What is significantly different in today's operating environment is that management sets boundaries and rules of conduct, not detailed instructions. This new mode of operation can be found when organizations partition themselves into communities of practice in which people with specific sets of skills and knowledge of special interest form working groups that offer excellence in a specific competency. Communities of practice are not confined to the private sector. In November 2003, the United States Under-Secretary of Defense established the Earned Value Management Community of Practice and a website with an expressed goal of increasing knowledge-sharing within the Defense acquisition community.[69] Communities of practice are especially interesting to our discussion on establishing a value for human capital because they not only represent valuable organizational assets, but also their benefits – such as the ability to overcome the innate problems of a long-established hierarchy, capacity to share knowledge externally, the aptitude to maintain organizational memory and knack for resolving unstructured problems – can be accrued to the organization. Possibly the by-product of a community of practice must also be considered in its overall value as the ultimate establishment of an environment for specialized learning and creation of an elevated enthusiasm for employees to apply what they learn.

2
Fluidity in a Dynamic Marketplace

Introduction

The dynamic nature of Human Capital often goes unnoticed or at least under-managed because market factors are not readily identified and tracked. Effectively matching talent, process and customer need is often the factor which separates profitable companies from money losing business ventures. If the customer need is routine and predictable, if the process and training is rigorously focused on that need then recruiting sophisticated talent may be counterproductive. However if valued customers present complex and dynamic needs requiring strong diagnosis skills and quick time responses a different equation emerges for entry level skills, training and process.

In the twenty-first century economy, workers in many industry sectors are realizing that geographic proximity to a corporation is no longer a constraining factor. This is an example of needing to adjust work processes for geographically bound workers (or terra-workers), and the processes for geographically mobile workers (or virtual-workers). If you assume the split for your firm will be 70 per cent terra-workers, to 30 per cent virtual-worker you can count on informal contact to facilitate knowledge sharing. The need to have formalized knowledge capture systems and distance learning increases as the number of virtual workers rises. Although technology companies would like us to believe that in the future all workers will be virtual. In our experience, the more realistic view may be a ratio of 7 virtual out of 10 in a typical midsize corporation. What is important to remember in the context of measuring human capital is that regardless

J.A. DiVanna et al., *People — The New Asset on the Balance Sheet*

of the composition of the workforce, technology plays a critical role in the coordination, collaboration and communication between workers, knowledge and results.

A secondary market factor that must be considered is the uneven generation of demand for talent that waxes and wanes under rising and falling local and national economic cycles. Growth in one industry creates sudden spikes in demand as specific corporate needs for scarce talents, such as computer programming languages or a medical specialist, create local shortages. The interlaced dynamics of the human capital marketplace can best be described by a four-tiered topology of workers: right skills in the right place, right skills in the wrong place, wrong skills in the right place and wrong skills in the wrong place. Because of the various levels of complexity inherent in the human capital market, for our purposes it is best to view the market at the macrolevel (global/national trends) first and then explore the microlevel (corporate/local demands).

In the mid-twentieth century, the works of Jacob Mincer,[1] Theodore Schultz[2] and George Becker,[3] linking investment in education to the value which could be generated by people, set the stage for more in-depth study into human capital. At the close of the twentieth century, a new generation of scholars such as Jac Fitz-enz, Karl Eric Sveiby, Thomas Davenport and Thomas Stewart advanced the quantification and qualification of human capital by defining what constitutes human capital, subdividing the topic into more easily understood component parts such as knowledge assets, intellectual property and social capital. Now, at the dawn of the twenty-first century, corporations, government agencies, investors and employees are recognizing that increasingly economic growth is shifting from the utilization of traditional physical assets to that of the applied use of human assets or human capital. The 'value of human capital' phenomenon that has been slowly growing over the years is now moving to the foreground of business strategies and government agencies that are coming to the realization that new financial measures will need to be established to ascertain more closely the value of a corporation's human capital. Alan Greenspan's testimony to the US Senate's Committee on Banking, Housing, and Urban Affairs in March 2002 puts into perspective the impact of human capital on the overall productivity of the nation and its impact on the stability of

the market's perception of economic growth or decline:

> From one perspective, the ever-increasing proportion of our GDP that represents conceptual as distinct from physical value added may actually have lessened cyclical volatility. In particular, the fact that concepts cannot be held as inventories means a greater share of GDP is not subject to a type of dynamics that amplifies cyclical swings. But an economy in which concepts form an important share of valuation has its own vulnerabilities. As the recent events surrounding Enron have highlighted, a firm is inherently fragile if its value added emanates more from conceptual as distinct from physical assets. A physical asset, whether an office building or an automotive assembly plant, has the capability of producing goods even if the reputation of the managers of such facilities falls under a cloud. The rapidity of Enron's decline is an effective illustration of the vulnerability of a firm whose market value largely rests on capitalized reputation. The physical assets of such a firm comprise a small proportion of its asset base. Trust and reputation can vanish overnight. A factory cannot. The implications of such a loss of confidence for the macroeconomy depend importantly on how freely the conceptual capital of the fading firm can be replaced by a competitor or a new entrant into the industry. Even if entry is relatively free, macroeconomic risks can emerge if problems at one particular firm tend to make investors and counterparties uncertain about other firms that they see as potentially similarly situated. The difficulty of valuing firms that deal primarily with concepts and the growing size and importance of these firms may make our economy more susceptible to this type of contagion.[4]

As the world of business embarks on a technologically enhanced, information-rich environment of global commerce, the development of skills, the dissemination of information, the cultivation of knowledge and the generation of intellectual property become increasingly an issue that spans the agenda of domestic companies, international corporations, government agencies and institutions of higher learning. In the global human capital marketplace, brainpower and information are analogous to stocks and commodities. Information is a fast-growing international commodity that can be quickly bought

and sold. Talent is acquired and utilized by a series of investments that in turn generate a return on investment. If people are indeed the most valuable asset of the corporation then one can argue that people are also the greatest natural resource of a nation state. At a macroeconomic level, people and their inherent skills are seen as directly or indirectly applied to facilitate the means of industrial production and/or provide services such as manufacturing, wholesale/retail trade, business services, construction, health care, social work, transportation, communications, hotels and restaurants, financial services, education and public administration. As industrial production and services activity morph to meet the changing needs of consumers and business, new skills are required to keep pace with technological and business process advances. The demand for new skills is rarely predictable, but once established it tends to follow a predictable pattern of growth and maturity. The demand for a new skill often originates as a direct result of a technological innovation or the reapplication of an old technology in a new way. In order to keep pace with changes in the demand for skills – or, in other words, human capital – people, corporations and nation states must take a proactive approach to providing the right skills at the right time and provide access to investments in the development of future skills. Mejia raises one such issue by looking at human capital development from the perspective of a critical resource in today's national economies, which can be adversely affected by a lack of access to investment or student loans:

> Investment in human capital cannot be financed under the same conditions as investment in physical capital. Borrowing constraints to invest in human capital are explained by some inherent characteristics of human capital itself. First, given that human capital can't be expropriated once acquired, makes it very difficult for it to serve as the collateral for a loan. Second, human capital investments are irreversible because the result of these investments (knowledge or skills acquired by one person) cannot be instantaneously sold once accumulated. Third, the returns to human capital accumulation are 'recovered' only over a long run.[5]

At a macrolevel, corporations are presented with a dilemma in which periodic investments in people are required to maintain operating capacities relative to moves by the competition while at the

same time the pressure to reduce costs forces firms continually to treat workers as expendable commodities. The macro-view skills in a wide range of industries are not static; they must change to meet technological innovations and new business conditions. However, these macro-level shifts in skills are not always apparent until well into the change in demand. For example, during the 1970s American students could learn automotive repair that required a basic understanding of the internal combustion engine and other mechanical concepts. Armed with a modest toolset, a student could repair virtually every aspect of the automobile's functionality. During the 1980s–90s, as the automotive industry introduced innovations such as fuel injection, computer-controlled ignition, antilock braking systems and other high-technology components, the fundamental knowledge of automotive repair provided a solid base of understanding but fell far short of effecting a repair. This is made even more evident by the amount of high-technology diagnostic equipment needed to make repairs. Within one generation, the average student's knowledge of self-sufficient automotive repair was made redundant. Automotive repair now requires a higher degree of learning complete with an elaborate toolbox of equipment. This raises two points of interest: at the national level, should industry and education have been communicating these trends to each other to better prepare for this transition? Perhaps more importantly, should educators have realized that these trends would lead to high productivity per worker and reduce the number of students seeking this type of work or steer students into careers that were emerging in other fields?

Unfortunately, at a national level it is impractical simply to abandon existing skill sets in favour of an emerging technical trend. Skills must also sustain current activities, while assisting in the transition to a new set of fundamental skills and technical capabilities. On a national level, the ebb and flow of old and new skills does not happen at the same speed as sudden shifts in business activities; skills must be developed and produced to anticipate new directions. For example, the university curriculum strives to provide students with a foundation of skills required for general business and an additional set of skills that address highly specialized and often technical needs of society, producing experts such as engineers, software developers, teachers, medical professionals, artisans and historians. In the 1990s, the rapid advancement in computer and telecommunications

technologies made predicting the next generation of skills required by society a difficult and sometimes impossible task, making graduates of many institutions of higher learning seem behind the times when they enter the job market. Because skills are developed over time and an institution's curriculum takes time to develop and be put into practice, these two factors conspire to create a skills shortage or talent gap. The shortfall in state-of-the-art skills when viewed on a national level can be correlated with international migration as workers with skills relocate to corporations that require their talents, immigration of foreign workers and outsourcing business functions to distant labour pools.

The Confederation of British Industry (CBI) makes an important observation in dispelling the myth that migrants damage domestic jobs and drain public finances, noting that migrants in 1999/2000 made a net contribution of £2.5 billion in taxation and that a 1 per cent population increase through migration can lead to an increase in GDP of between 1.25 and 1.5 per cent.[6] The CBI also states that new migrants' skills must complement those of domestic workers to circumvent a potential danger of migrants depressing the wages or employment prospects of UK workers. Additionally, the CBI cautioned that immigration is not an alternative to raising the skills of the UK workforce.

From a corporate viewpoint, the ever-accelerating climate of global business continues to act to commoditize rates of pay, spark talent wars and usher in a constant almost maniacal search for low operating costs. In many cases, the trend of shareholders demanding this-quarter profits have placed firms in a cost-cutting spiral. Corporations have turn initially to outsourcing jobs and acquiring required skills from third parties. However, with slow economic growth displaced workers have used the outsourcing and offshoring talent options as a political issue, creating an impression of a lack of long-term loyalty by employers. People are the drivers of value in a corporation because the actions of employees to execute business activities, analyse and streamline operations, and innovate new products and services within a cohesive organizational structure enable the business to meet its objectives and deliver customer/shareholder value. Moreover, in the macroeconomic sense, the ability, skills, knowledge, wisdom and insight that individuals within corporations possess provide a continuity of business which drives economic

growth, as Naisbitt observes: 'The more economies of the world integrate, the less important are the economies of countries and the more important are the economic contributions of individuals and individual companies.'[7]

Corporations are striving to achieve operational synergies within themselves and with external entities. In this complex environment, individuals must think differently about how they add value to the corporation's products, services and customer satisfaction. Today's workers can no longer be content with performing preconceived tasks that use their talents as simple mechanisms to fulfil business process activities. Today's workers must think, execute and rethink their actions on a daily basis in an effort to continually improve production and service. Workers from all facets of the organization must be able to conceive products and/or product improvements, sell to customers, seek new sources of materials, service clients, and interact with colleagues, co-workers and partners to participate in a network of value-adding competencies. This rethinking of job responsibilities and the skills needed to be a value-added member of a network of competencies is due to many factors found in today's business climate. Amongst these factors, we can primarily identify the aggregated effects of the evolving technological advances of the latter part of the twentieth century. Technology's silent steadfast and inescapable influence has shaped and will continue to shape and reshape the process of business.

One aspect of technological advance can be attributed to reengineering, where technology was used to reduce the core business processes and remove non-value-added business activities. Unfortunately, for many companies this resulted in a practice of ousting people as a cost-cutting measure and later this practice was renamed as downsizing. At a macrolevel, reengineering has had an unanticipated side-effect in that as corporations shed jobs, it in turn created a multitude of smaller, highly specialized firms offering clearly defined services. There is a second consequence in larger corporations whose operating divisions are transforming into talent pools or 'cells of competencies' that are able to perform discrete activities to support internal business processes and/or provide external services. In more extreme cases, this has led to organizations becoming separate entities from their original company to provide services to external clients. Cells of competencies are highly specialized labour pools that lend

themselves to providing outsourcing services. Corporations on a global scale are recognizing the benefits from outsourcing. However, one should also consider the risk in moving vital business functions to geographic areas of potential instability. Companies now actively collaborate with outsourcers and offshore labour-providers to perform activities that traditionally were accomplished by in-house staff. Corporations have become more transnational, operating as cell of competencies and collaborating in many new ways with internal talent pools and external partners. However, during this transition many senior managers often overlook one critical component, that of the corporate or organizational culture. An organization's culture can mean the difference between a smooth transition and one fraught with labour problems, and between a high profit margin and a negative return on investment. Simply, the culture of the organization can make or break a successful transition from a traditional hierarchical structure to more flexible labour options. Corporate culture should not be underestimated, as Fisher claims:

> As we've learned through the last few years to quantify business culture, take it out of just the realm of assumptions and beliefs within an organization and quantify it into behavioural aspects in a company, we've been able to link it to some fairly fundamental business indicators such as profitability, market shares, sales growth and we've learned that the bottom line about culture is it's not something that's out there in the mist somewhere, it's basically the way we do things around here. It is absolutely the way we show up each day in the workplace, and the way we work together. Are we clear about where we're going as a company? Do our people communicate with each other? Do they work in teams? Do we develop their competencies? Do we perceive our people as important to the operation here? Do we have systems and processes that support us? What are our expectations? That sort of thing. How do we reward our people?[8]

It is clear that corporations are in the midst of a fundamental change in how labour is engaged to facilitate the process of business in a global economic environment. We can see evidence of the fluid nature of the employment market during the dotcom years as older, more experienced executives were jettisoned because they were

perceived to 'not understand' the Internet's vast potential for commerce.[9] However, in the post-dotcom working environment employers began to recall previously jettisoned senior (grey-haired) talent as investors' confidence in dotcom thinking waned and a return to the fundamentals of cost savings and cash management became the focus of shareholders' attention. The competition for senior talent was put into proper perspective by the human resources company Spencer Stuart, who launched the Human Capital Market Index that uses demographics, market liquidity, volatility and market value premium to assist companies and individuals to measure and understand the value of talent in human capital markets.[10] Increasingly corporations that find themselves with a severe shortage of talent have turned to external sources such as outsourcing and/or creating partnerships with corporations to link talent pools.

The insight on outsourcing made by Deloitte Research points out that there are six key factors to consider when designing a human capital strategy which includes external labour sources:

- understand trade-off between achieving costsavings and managing degrees of operational risk
- assess the degree of control required to execute specific activities
- recognize the degree of flexibility needed to respond to competitive challenges
- assess the need for speed; outsourcing and offshoring can speed the process, whereas in-house or customization makes it slower
- evaluate and align cultures
- understand that local knowledge is essential; cultural differences, local laws and workers' behaviours must be seen in context.[11]

Furthermore, Deloitte Research also raises an important question: if a company develops a very close relationship with an outsourcing partner, what is the impact on the company's intellectual capital, process capital, organizational capital and, finally, knowledge capital itself? Measuring the human endeavours of the organization with a meaningful metric where the firm has elected to outsource to external partners creates another level of complexity which must be considered: the intellectual property of the firm (for example, process knowledge and specific know-how) must also be listed in a separate asset category from that of talent on the balance sheet.

What is clear is that the market for talent is indeed fluid, ebbing and flowing with every economic cycle, crossing international borders and spanning all industries. As nation states realize that people are a significant natural resource, three distinct issues become evident: educational institutions must work closer with industry to provide necessary skill sets for future talent pools; the fundamental social contract of employment has changed from lifetime employment, making employment a series of temporary engagements; and technology enables the globalization of the labour market, providing greater access to talent pools while simultaneously creating new supply and demand problems. One could argue that human capital on a macrolevel is rapidly evolving into a foreign policy issue for nation states because of the direct implications for trade, commerce, education and the economy, as we will see in the next section.

Education should drive the market, not follow it

> I hear and I forget, I see and I believe, I do and I understand.
> Confucius[12]

In the previous section, we discussed how technology has played a continued role in reshaping business on a global scale, often resulting in talent shortages in highly specialized skills. Corporations need talented individuals to generate value to customers and provide profit to shareholders. As global businesses become more interconnected, the demand for highly specialized skills rises, creating an often volatile job market, whereas the demand for people with foundation skills (or skills which focus on fundamental understandings of business) rises and falls in a more cyclical pattern. What is different in today's work environment is the speed at which specialized skills reach their demand peak, coupled with geographic surges in the form of talent pools. It is safe to say that during the last two decades of the twentieth century, the labour market changed drastically from previous generations of the worker–employer relationship. Three issues arise from this fundamental shift in the labour market: academia is not keeping pace by supplying graduates with the right skills; people must now exercise greater initiative to acquire skills; and corporations must act proactively, making continual investments in knowledge acquisition and supplemental technologies.

Higher education has always been prized by business because it came with an implicit understanding that a graduate possessed more wide-ranging knowledge and in-depth skills that can be applied at various points along a firm's business process. For graduates, a BA, MA or MBA, or a PhD promised social mobility coupled with a job paying better than average. This symbiotic relationship between higher education and business rose, flourished and evolved into an institutional relationship which came with an unspoken guarantee of quality and understanding of applied thinking skills. With several decades of rising numbers of graduates, one would think that this would provide a substantial foundation for transition from the information age to the knowledge economy. However, the demand for jobs with specific reference to academic qualifications has begun to fade as business activity shifts from traditional industrial activity to business services and corporations are placing a higher value on skills that demonstrate articulacy, confidence, smartness and other interpersonal skills obtained through experience.[13] Higher education institutions outside of the United States have yet to realize fully that they themselves are now in business, competing in a global marketplace for students, investments and research projects under a brand identity that must reflect a distinct value proposition to students and employers. Corporations see universities as playing an integral role in providing employees with a fundamental understanding of subjects that can be broadly applied to business problems. Corporations turn to institutions of higher learning because they are perceived as instrumental in obtaining insight on highly specific intellectual disciplines. What corporations have discovered is that skills are learned, competencies are created, processes are designed and knowledge is acquired. Universities' key role is in developing skills and providing a base of knowledge that business can in turn mould into competencies.

Traditionally a university education such as a bachelor's degree ensured employment because it signalled to employers that a graduate received instruction that represented a foundation of knowledge which could be applied to a wide variety of business activities. More importantly, employers believed that graduating students had simply learned to think comprehensively. However, as more qualified graduates entered the workforce each year, employers began using the type of school as an additional criterion to consider when hiring new graduates. The pretext is that Ivy League schools (in the USA) produce

higher-quality graduates capable of better decision-making and holistic problem-solving. This preconception is still prevalent in today's hiring practices as noted in the following table by the US Bureau of Labor Statistics where the most significant factor in the top ten projected careers is a college/university orientation (see Table 2.1).[14]

Corporations depend on institutions of higher education to provide them with graduates who in turn will make them more competitive in the global economy. Growing trends such as corporate–university cooperation, the establishment of university-style education within global companies (corporate universities), and greater interdependence with research projects make it clear that an interdependent relationship between higher education and global corporations is emerging. Corporations are attempting to reduce the cost of indoctrination and training new employees with skills that are directly applicable to the production. For example, London's visual effects and animation studio Framestore CFC is in regular contact with university tutors, identifying skills that will make graduates more attractive for hiring in the animation and post-production market.[15] In addition, government agencies are also realizing the potential of education and learning for the long-term development of human capital, as stated in the following quote:

> The *e*Learning initiative of the European Commission seeks to mobilise the educational and cultural communities, as well as the economic and social players in Europe, in order to speed up changes in the education and training systems for Europe's move to a knowledge-based society.[16]

The European Centre for the Development of Vocational Training, established in 1975, is another European agency whose mission is to promote and develop lifelong learning in the form of vocational education and training throughout the European Union (EU). Another example is the establishment of the European Training Village sponsored by the European Centre for the Development of Vocational Training (Cedefop) the European Union's reference centre for vocational education and training.[17] What is clear is that a bidirectional communication between educators and business is emerging to complement corporate training while enhancing the college curriculum.

Table 2.1 The top ten fastest growing occupations in the USA, 2002–12

Occupation	Employment (thousands)		Change		Most significant source of post-secondary education or training
	2002	2012	Number (thousands)	Per cent	
Medical assistants	365	579	215	59	Moderate-term on-the-job training
Network systems and data communications analysts	186	292	106	57	Bachelor's degree
Physician assistants	63	94	31	49	Bachelor's degree
Social and human service assistants	305	454	149	49	Moderate-term on-the-job training
Home health aides	580	859	279	48	Short-term on-the-job training
Medical records and health information technicians	147	216	69	47	Associate degree
Physical therapist aides	37	54	17	46	Short-term on-the-job training
Computer software engineers, applications	394	573	179	46	Bachelor's degree
Computer software engineers, systems software	281	409	128	45	Bachelor's degree
Physical therapist assistants	50	73	22	45	Associate degree

Source: US Department of Labor: Bureau of Labor Statistics.

The pace of global business in the twenty-first century is accelerating, forcing organizations to meet ever higher customer expectations and increased levels of competition. To remain competitive, organizations cannot afford to be static; they must continually assess their business, its supporting business processes and the people engaged in fulfilling existing process functions as well as inventing new processes, products and services. Kaplan and Norton remind us that organizational learning is essential for businesses to grow, evolve and meet new competitive threats.[18] Therefore, it is reasonable to assume that individuals must replicate this process of skill acquisition and renewal to keep pace with the organization's continued process of reinvention.

One of the dilemmas in managing human capital or viewing people as corporate assets centres on who is the investor and where should additional investments come from to keep the individual's skills current? Traditionally, an individual comes to the firm pretrained or with some level of qualifications. In some cases, a high school diploma with a few years' experience is enough. However, since the 1970s a college education with an undergraduate degree has become the preferred qualification by most employers. Once employment has been secured, at various intervals the corporation provides training and opportunities for the individual to supplement their skills with additional education such as internal training programmes, seminars, conferences, formal technical training and continuing education at a local university. Other options open to corporations have been to develop career paths within the firm organized around a general curriculum of desired skills with programmes such as on-the-job training and the funding of master's degrees, doctorates and MBAs. Unfortunately, in poor economic times the budget for training and additional education is usually one of the first items to be eliminated in cost-cutting actions. Another factor to consider is that as a special career path becomes desirable, universities subsequently flood the market with graduates. The oversupply of people with a specific skill tends to drive down wages, or, more precisely, it reduces the return on the educational investment.[19]

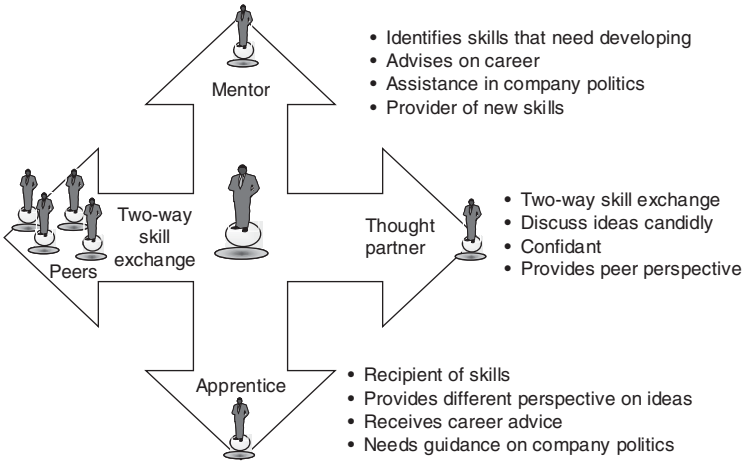
Corporations provide career paths designed to fit the goals, objectives and strategic intentions of the firm. Individuals must develop or possess a proficiency in five basic areas: foundation skills, people skills, technical skills, managerial skills and political skills. Emerging

occupations are those that require knowledge, skills and abilities that are not yet in the mainstream of demand. In many cases, the emerging jobs start as new technology becomes available and slowly mature into positions within organizations that are then recognized as needed talent. Over time, evolving occupations become incorporated corporations and the criteria to meet these jobs are then established within the higher educational system. Eventually, these emerging occupations are incorporated into government codification systems as they reach full maturity. For example, several relatively new occupations have become part of the occupational coding system in Canada, such as webmaster, multimedia specialist, direct broadcast satellite technician and electronic commerce specialist.[20] For career paths to be meaningful the relative contribution of the individual must be reflected in the metrics of the firm and ultimately on the balance sheet.

John Shuttleworth, a fellow at the Institute of Actuaries, makes an important observation noting that, for an individual, human capital can be understood as earnings from all employments before retirement viewed in the context of a bond portfolio. Simply, on an individual level, human capital translates to one's ability to earn at a rate consummate with their activities within the organization. In Shuttleworth's point of view, the intrinsic value of an individual's human capital can be enhanced by education and new skill acquisition and lose value by poor personal habits such as alcoholism, drug addiction and other distractions that impair performance.[21] Individuals proactive in managing their career make a conscious choice to invest in themselves by acquiring skills such as MBAs simply because they realize it would increase their long-term earning potential. An individual has a portfolio of skills, knowledge and experience coupled with a varying degree of talent that like an investment portfolio must be diversified to reduce the risks of being made redundant in any one job. Multiple skills are often thought of simply to provide upward mobility in a firm (known as climbing the corporate ladder), but now lateral mobility within a company or across corporations is more desirable simply because it creates greater opportunities.

The key lesson to be learned in the new evolving global economy is that career management, skill acquisition and personal development have shifted from a traditional paternal approach used by corporations in the past to a more self-actuated, self-managed and individual

Figure 2.1 Mentoring model



approach. Individuals must consider the increasingly complex alternatives to their working careers. However, this also creates an opportunity for corporations to assist individuals in acquiring the right skills at little or no cost by implementing learning systems that leverage existing knowledge within the firm that is desired by individuals. For example, mentoring is a cost-effective approach to equipping people with the specific skills to perform activities demanded by business processes and to develop interpersonal and multicultural dexterity.

Figure 2.1 places the individual at the centre of the mentoring process. The basic concept of the mentoring model is that each person in the firm has a valued skill and must mentor others while simultaneously acquiring new skills themselves. Corporations hire individuals because they possess skills that can contribute to the business process in three ways: to fulfil the requirements of the process; to rethink, repair or streamline the process; and to handle process exceptions. Few individuals possess all the skills desired by the company to perform the required work and to excel and innovate beyond the limits of the existing processes. Therefore, with few exceptions, the majority of people employed by the firm possess valuable skills and need to acquire additional skills continually so as to serve the firm long-term. With each person possessing an inherent number of

skills, it is in the best interest of the firm to use people as a primary source of learning and acquiring new skills. Understanding this therefore creates the opportunity for each person in the company to mentor another person within the firm. A dynamic process of mentoring has a twofold impact on an individual: first, the passing of a skill to another, thereby reducing the level of detail in communication required while performing a specific task; and, second, the fact that it increases an individual's feeling of self-worth by establishing a value or field through which they add to the organization.

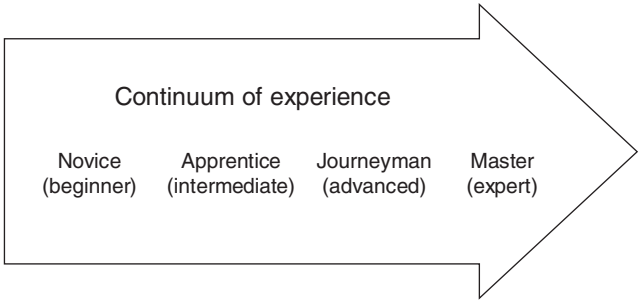
When mentoring becomes a formalized process within the company, it can also be used to facilitate both formal and informal networks of people sharing special interests or focused on developing a particular set of skills. Ultimately these networks of people can evolve into a 'community of practice' consisting of individuals connected via face-to-face meetings and/or electronic networks, exchanging information and knowledge at regular intervals.[22] In today's business climate, where the boundaries of the firm are becoming less defined with activities such as outsourcing, communities of practice are forming to collaborate more closely with individuals who work within the same company and external organizations. A proactive approach to mentoring puts the company at a distinct advantage because it is continually honing skills to match existing business activities.

When companies are in the midst of dramatic process change or reorganization of resources, they often overlook the attitudes of individuals which can make or break a firm's resolve. When businesses undergo drastic change due to a fundamental redefinition of their industry, they fail to take into account the organization's resistance to change. This occurs on three levels: process, skills and attitude. People within the firm who are engaged in the fulfilment of process activities resist changing the process because of the complex task of keeping the existing process running while simultaneously implementing a new process. People with dated skills or incumbent process knowledge resist change due to the amount of time required to reskill. Wijesinghe makes an important observation that not all people can make a transition from one operating state to another and that people within the workforce should strive to make the work environment better, or they risk becoming an organizational liability: 'The right people are an asset, but the wrong people are a liability.'[23]

Boon asserts that there is a measurable, quantifiable link between investment in training and productivity growth.[24] Investments in human capital must be targeted to specific knowledge required to achieve specific goals and/or activities that enable the realization of the organization's goals such as support functions, research and development, marketing and other internal functions. However, since it is difficult to accurately predict changes in customer demand or market behaviour, a percentage of these investments must occur in tangential knowledge, for example, providing employees with the means to acquire an MBA which can be applied across a wide range of activities. One key observation that Boon makes is that some knowledge that is highly technical or industry-specific may deteriorate over time, such as in computer programming languages, and must be depreciated in a similar manner as any fixed asset.[25] This decay of knowledge can also be measured and circumvented with additional investments to maintain market parity with competitors. The valuation, depreciation and investments of employee skills become a very complex issue for larger firms that are a conglomeration of product lines and services that span multiple industries. To counter the deterioration of skills, corporations must provide access to formal programmes such as personal development, seminars and specialized knowledge transfers, informal activities such as mentoring, skills exchanges and participation in a community of practice, and external training programmes such as MBAs, continuing education, conferences and seminars. Individuals, on the other hand, must seek out additional skills development as part of their commitment to the company and to keep themselves current, making them in turn more marketable to other firms. Individuals must remember that learning is a continuum of experiences that coalesce into a skill augmented by formal training in which a foundation of knowledge allows the individual to apply knowledge to a wide range of business problems and competitive scenarios. This is simplified in Figure 2.2.

As an employee, the individual must fully understand that the continuum of experience is completely within their control. Simply, as corporate paternalism subsides, the individual must take sole responsibility for their career, skills development and knowledge acquisition. The journey from novice to master in any skill set must be planned and executed by the individual. Employers have an inherent responsibility to provide access to educational sources and learning

Figure 2.2 The continuum of experience



opportunities but the individual must manage the process of experience-gathering.

The process of skills acquisition is also being seen as a national concern, as economic activity shifts from industrial production to services. In the industrial economy, raw material and natural resources played a vital role in the long-term development and prosperity of a nation state. In a service economy, job growth is dependent on the skills and knowledge of individuals and – perhaps more importantly – economic growth is linked to the process in which people acquire contemporary skills, education and experience. One could argue that people in the service economy are analogous to raw materials in the industrial economy. It is from this perspective that governments are beginning to play an expanded role in the process of education for business. One example is in rural Australia, where the Learning City programme aims to develop collaborative learning partnerships between education providers, business, local government and community activity and to integrate economic and social development.[26] Australia's approach is a model to be considered by corporations simply because it places people at the centre of the learning experience. What is interesting about this model is that it provides a baseline of educational experiences such as the International Computer Driving Licence that prepares an individual with a foundation of knowledge to be applied through a variety of channels. Individuals apply their knowledge and acquire new skills by participating in the Training Network, an Internet-based café and a learning festival. Participants also visit a learning shop where educational institutions and other

training providers make their services known to active learners. This model is easily applied to corporations that are looking for new ways of engaging their workforce by developing an environment in which people can continually acquire new skills. Employers can work with educational providers to establish a curriculum that supports the endeavours of local businesses. More importantly, professional educators can interchange with business to collaboratively determine what new skill requirements are on the horizon.

Another example of government playing a more proactive role can be seen in Europe, where employees are establishing a right to be trained. The *OECD Economic Outlook* states:

> France, Belgium and Denmark grant workers a right to paid training leave under certain conditions. This option puts the onus on the individual, rather than the firm, to choose to be trained, and to choose the type of training. In France, beneficiaries of the programme must have an indefinite work contract, thereby excluding temporary workers, while in Belgium the scheme is restricted to full-time workers.[27]

A model in which people can actively pursue learning and knowledge and develop new skills raises the important question of who should pay for the education of an employee. In the traditional corporate paternal environment, skills that were directly applicable to a specific work task were often funded by the employer and skills or knowledge that were only marginally applicable to the job were funded either in part or not at all. In more progressive companies, employee education in all forms qualifies for some level of funding regardless of the overall applicability. In this school of thought, all skills bring value to the firm at some point in the future even though a specific use may or may not be discernible under the firm's present operating conditions. Simply, a well-educated individual will discover how to apply knowledge to improve the firm as business conditions change. However, at the onset of the twenty-first century a growing minority of employers are asking a fundamental question on continuing education which can be paraphrased as 'would you hire a carpenter if they show up with no tools or knowledge to do the job?' Employers who have adopted this attitude are quick to commoditize labour, simply looking for ready-trained employees who can be hired,

engaged and subsequently jettisoned when business conditions change. This type of employment-driven environment places the responsibility for career development and skills acquisition squarely on the shoulders of the individual.

All employment is temporary

Within one working generation, the age of lifetime employment is over. The corporate paternalism of the 1950s and 1960s has been replaced by concepts such as downsizing, rightsizing, redundancies, outsourcing and offshoring. This alteration in the relationship between labour and management has led to a general feeling that people are now simply a global commodity easily bought, sold and traded. Corporate executives now strive to instil an ethos of 'lean and mean' into the minds of their employees. Along with this change comes a new corporate attitude in which labour or, more accurately, people must continually exceed performance criteria in order to justify their existence. This sends a clear message to workers: excel or be cast aside. In many corporations, not only US ones, the growing attitude echoes the short-termism instilled in senior management teams by Wall Street analysts who are steadfastly fixated on achieving the biggest possible return in the shortest possible time. The global business is projecting a distinct message to the workforce: 'long-term is nice but what can you do for me this quarter?'

To the average worker, this new attitude translates into a new anxiety about employment whereas lifetime employment represented security and a sense of stability. What is clear is that since the 1970s the underlying social contract between corporations and employees has undergone a fundamental redefinition. During the 1990s, large corporate entities broke up into small autonomous units which relied less on centralized senior management, placing the emphasis for performance on front-line workers.[28] It may be too early to make sweeping generalizations on the impact of this type of change in corporate thinking, but one could argue that a lack of stability may be attributed to a lesser degree of consumer spending during any economic recovery. In short, workers are reluctant to spend money with the same satisfaction knowing their futures may not be secured. During the next few years, the overall impact on macroeconomic business activity will begin to be understood by market analysts.

The advent of corporate short-termism has now led most professionals to realize that their new career path is a series of temporary working relationships that are dependent on performance and economic environmental changes. The factors that motivated employees in the past and which gave rise to a sense of corporate loyalty have been replaced with a sense of foreboding and for some a renewed sense of individualism. For some labour segments (now labelled knowledge workers), the shift in corporate attitudes gave birth to an interest in free agency. Advances in computer technology and telecommunications provided the necessary tools for knowledge workers to divide their work schedules between multiple employers. Pink, Warshaw, Davis, Lonier and other industry thinkers put forth the notion of free agency in the landmark issue of *Fast Company* in early 1998 entitled 'Free Agent Nation'.[29] Unfortunately, free agency applies to a relatively small segment of the workforce, and to people in other professions it can be considered a form of labour elitism. To many workers, this erosion in the traditional social contract between employer and employee has severely reduced company loyalty and evaporated all notions of job security.

Because of the growing sense of instability within the workforce, workers have begun participating in organized communities of common interest that span multiple organizations, cultures and nation states. Often organized around a specific job skill or profession such as women in engineering (MentorNet, United States) or a special interest such as strategy (Critical Eye, United Kingdom), these communities offer a mechanism for most workers to network with people having the same interest and/or job functions. To some extent, these groups resemble the medieval guild system and may evolve into a formalized network of international talent pools which coordinate members' activities such as job-seeking. Laubacher and Malone make an important observation on how guilds serve their members:

> Guilds appear to be an especially promising way of addressing two challenges. First, by providing insurance and pensions, professional development and placement programs, and access to a social milieu, guilds can allow workers to take advantage of flexible employment relationships – and the potential for greater productivity they offer – without having to face high risks and unattractive social repercussions. Second, by emphasizing continuous

> learning for their members and the matching of workers' skills with available opportunities, the interests of guilds will be closely aligned with those of the companies for which the guilds' members will work.[30]

The implications for the way labour is engaged by corporations would be fundamentally altered as organized guilds could act in a similar manner as twentieth-century trade unions. Existing trade unions might provide specialized expertise such as contract negotiation and labour dispute mitigation to guild members in the same way that the guilds engage insurance cover and other guild benefits. In this emerging model, guild members, like the twentieth century's labour unions, will shift their loyalties to the guild, not the employer, ultimately being loyal only to oneself. In Aldisert's view, a fundamental shift has taken place within specialized workers who have now realized that their talents and creativity are merely on loan to a corporation, rather than owned by the firm.[31] The changing composition of labour within a corporation compounds the firm's ability to develop meaningful measurements. For example, a firm creates a measurement and value for the call centre staff and within three months headquarters outsources that function. What happens to the value of the firm? Since the people that are now doing the work are not part of the organization, would the intrinsic value of those human assets simply be removed from the balance sheet?

It is too early to assess the long-term impact of this redefinition in the social contract between labour and global business, but one could argue that a 'free agent' is the twenty-first century's indentured servant, cleverly absolving corporations from any social responsibility for employment. Free agency is to workers in demand an uplifting experience, but as markets become saturated with electronically connected talent operating from distant locations at lower hourly labour rates, the fall-out may be catastrophic. A rising theme amongst special interest groups and trade unions is the transference of jobs to distant locations, often referred to as outsourcing or offshoring. This cost-saving measure increasingly used by corporations has recently been elevated to a political issue. In the case of trade unions, the offshoring aspect of this fundamental change in the use of remote labour now in the form of service work is packaged under an umbrella of vague references aimed specifically at generating local

fear of job loss. If one examines the underlying rationalizations used by the unions, they rely primarily on maintaining the status quo, not centring on optimizing an organization's performance or maximizing profits. For example, the argument presented by the Lloyds TSB Group Union argues that offshoring 1,500 jobs to India will adversely affect the bank's customers:

- Earnings from handling UK accounts should be used to support the UK economy through salaries and taxes, rather than be diverted abroad.
- Customers prefer to deal with UK staff wherever possible.
- Customers are concerned over how personal accounts and other information will be managed and processed.
- Customers believe that valuable jobs should be kept in the UK to avoid unemployment.[32]

The underlying question concerning all work evolving into a series of temporary relationships between labourers and corporations is how does the temporary nature of these activities alter lifestyles and home and family relationships. In the mid-1970s, *The Future of Work* made an observation that still rings true today:

> Today as in the past, our relationship to work activity is a fundamental determinant of the way we live. Our relationship to work has determined and influenced our status, the kind of food available to us, our ability to buy goods, our use of time and leisure, the nature of our family and sexual relationships, the state of our mental health and an endless host of other conditions.[33]

What is clear is that who does what within the firm's business processes is changing, where the work is done is also changing, and how these activities are measured is becoming more difficult to assess. One element often overlooked by firms during this transition is a fundamental reexamination of what work is done. Organizations rarely question preexisting business processes. Individuals who directly serve the customer, work on the production line and are engaged daily in the execution of a business process rarely have time to reflect and to observe their actions in a greater context.[34] This work is often best done by consultants who bring with them a body of

knowledge that crosses industries, cultures and organizational designs. The work of consultants to redefine the processes within the business, the work required fulfilling those processes and the identification of skills needed to perform newly designed tasks has a direct implication on how the value of people is represented on the balance sheet. As human assets are redeployed in new ways, the inherent gain or loss in productivity should be reflected as an appreciation or depreciation of the remaining human assets. For example, a firm reengineers its core business processes, resulting in new processes requiring only one-third of the workforce to achieve the same production output. If the corporation elects to make the people redundant, is there a reduction in total human assets? Are the remaining people simply three times as valuable? If we believe that people are assets, should they not be simply reallocated to new business activities?

Using consultants, outsourcing and other transient labour sources have given rise to talent exchanges that act as a match-making service between talent requirements and available talent pools. One of the more creative approaches to talent-brokering is to barter talent, found on BarterItOnline, which offers 'a brokerage exchange of professional abilities of free agents with the specific project needs of member businesses and entrepreneurs'.[35] BarterItOnline brokers equity trades for goods and services by 'bringing together equity-rich firms and vendors who have products and services they are willing to supply in exchange for stock options, as full or partial payment'.[36]

As the market for global talent continues to redefine itself and corporations acquire and trim away staff as a reaction to cyclical economic trends or erratic customer demand, the nature of employment and career planning will continue to become more like a series of jobs in a variety of corporations. These factors play a significant role in developing a measurement that establishes the value of the human capital of the firm. External factors such as customer demand are not absolute, in that the variable themselves often change in value and meaning. Caution should be used when attempting to incorporate variables with unknown values into the firm's metrics for measuring human capital. A prudent approach may be to describe simply what extenuating variables mean to the corporation, summarizing how the firm has factored variables such as economic swings and changes in customer behaviour into their equation for valuing people.

Labour shortages and the new face of globalization

> To make a living is no longer enough, work also has to make a life.[37]

With over six billion people in the world, it is hard to imagine a shortage of labour. People are abundantly available; skills, on the other hand, are in short supply. Labour shortages occur for two primary reasons: skilled workers are located in the wrong place at the wrong time; or insufficient numbers of people exist with a skill or skills required for a specialized task or operation. Traditionally, the process of providing skilled workers has been based on the timeline where a young person goes to school, specializes in an industrial art or follows academic pursuits before deciding on an area of specialization or selecting an industry in which to work. Once employed, additional skills are often acquired by attending employer-provided training or an individual may seek continued education at an institution of higher learning. The issue of having the right skills to meet the industrial output of a nation, region or local community was typically governed by a process in which schools provided a basic education and specialization was influenced by the needs of corporate employers. Today, the social process of skilling people is no longer an issue confined to the halls of academia and is rapidly becoming an economic concern of nation states and corporations trying to build or retain a competitive edge.

Businesses must look at the problems and opportunities of a globalized labour market from three perspectives: a macro view in which valuable skilled labour is available transnationally as an integral part of a nation state's assets; a business process view in which labour pools are cells of competencies which are linked by service agreements synchronized to fulfil various business activities; and, finally, an individual perspective in which corporate demand for future skills must be made proactive in order to reduce skills gap. As expressed by Queen Rania Al-Abdullah of Jordan:

> Human capital is every country's most valuable asset. Whether the goal is promoting access to technology, education, health, meaningful jobs or civil services, our efforts should maximise the human potential of all citizens, enabling them to lead lives of dignity and independence.[38]

Queen Rania rightly notes that human capital does not simply appear; it is rather a product of continual investment in people to acquire new skills and knowledge beginning at a young age and continuing long into adulthood. On a national scale, a fundamental problem of human capital is not always recognized by corporations. Companies within a nation state do not get together to discuss deficiencies in the labour pool; perhaps they should. Corporations within the same industry, such as financial services, manufacturing or petrochemicals, are not in the habit of periodically coming together with centres of higher learning and government agencies to discuss the quality of the labour market as a managed resource. Again, perhaps this is an opportunity. In most cases, corporations are preoccupied with generating next quarter's profits and believe, rightly or wrongly, that secondary schools and universities are producing people with skills that can be readily applied. Ironically, if this were true, it raises an interesting question: why are there still labour shortages? The continued development of applied knowledge is predicated on two essential ingredients: access to technology that enables learning and the opportunity to use newly acquired skills. To smooth the peaks and valleys in the labour market, corporations must take a more proactive role and work in partnership with higher education.

One way of reducing the shortfall in local labour pools is to create a community of practice. Practitioners in geographically disbursed areas and disciplines are forming informal groups called communities of practice (CoPs). These highly specialized communities are a powerful venue for sharing global experiences with the goal of adapting them to meet local challenges. For example, the World Bank sponsors a number of internal communities of practice called thematic groups or TGs. TGs are formed and administered by the World Bank to encourage continuous learning and knowledge-sharing.[39] Within the World Bank, more than 70 communities of practice cover a wide range of topics. Communities of practice have been found to be a cost-effective mechanism to supplement learning acquired through formal teams, groups and one-off learning events. A quick look at the Economics of Education community reveals that it is a collaborative partnership with external organizations such as the University of Illinois at Chicago, Nanyang Technological University, the European Investment Bank, the Research Institute of the Finnish Economy, EdInvest (International Finance Corporation), and

the Institut für Weltwirtschaft an der Universität Kiel (Kiel Institute for World Economics). The World Bank's use of communities of practice demonstrates the need for organizations to seek out knowledge from many sources, which until recent years was previously accomplished by immigration or emigration. A person moving from one geographic location to another was a simple way to cross-pollinate knowledge in a large organization. At the microeconomic level, corporations such as E.I. du Pont de Nemours and IBM often moved personnel into and from distant locations, bringing talent and knowledge to operational locations that needed both resources and fresh ideas. However, as the cost of labour continues to rise across national economies, this process is slowly being replaced by distance collaboration via the Internet and other technologies. Although a reduction in physical movement of personnel removes one layer of complexity in valuing people as corporate assets it also raises another important point: how do we measure the exported knowledge to subsidiary organizations and other cells of competency within a network of value?

However, on a global scale, immigration, emigration, knowledge-exporting and communities of practice are a two-edged sword. The use of technology to provide services without physically moving to a new location could be labelled virtual immigration. Despite the fact they all provide a nation state or geographic region with required elements of labour, they nevertheless also increase the risk of devaluing local labour markets by oversupplying special skills that drives down pay rates. Until recently, this phenomenon was for the most part felt by lower-rate wage-earners such as telephone customer service representatives and other early-outsourced jobs. Now the same process is starting in highly educated and speciality skill areas such as consulting, computer programming, biomedical research and other high-technology jobs. In the post September 11 geopolitical economic environment, immigration has become a political tool of nation states that acts to restrict job migration for fear of terrorist infiltration.

That said, the saturation of local labour markets, first by immigration in the twentieth century and now virtual immigration as a product of outsourcing and the Internet, creates the need for a dynamic mechanism for establishing a value for human capital that factors or weights these variables. Cheaper local labour rates are often an objective of corporations. This condition exacerbates the dynamics of the

local skills market, bringing into clear focus the root of the problem – a mismatch between potential workers and employment growth.[40] For corporations trying to measure human capital, a mismatch in skills, such as lower wage-earners holding a postgraduate qualification but unable to get jobs in their primary field, may act to inflate the value of human assets. For a moment, we must place this into a global context in order to address how these data can be treated on a balance sheet.

The Organization for Economic Cooperation and Development (OECD) reports that countries attract workers skilled in industries such as information technology, telecommunications, education and health services, as well as unskilled workers to perform seasonal jobs, household work and personal services with equal vigour to fill employment gaps. During 2001–2, amidst a global economic downturn, immigration figures for skilled and unskilled labour in the richest nations increased.[41] According to the US Department of Labor: Bureau of Labor Statistics, job openings stem from two key sources which are important factors to consider in measuring human capital: employment growth and replacement needs. Job growth is attributed to swings in economic cycles while replacement needs arise as workers leave occupations, some transferring to other occupations while others retire, return to school, or quit to assume household responsibilities. The cyclical nature of job growth and natural corporate attrition rates must be considered in creating a measurement of local human capital:

- Replacement needs will account for 60 per cent of the approximately 56 million job openings between 2002 and 2012.
- Professional and related occupations such as computer and mathematical occupations, healthcare practitioners and technical occupations, and education, training, and library occupations will grow faster and add more jobs than any other major occupational groups, with 6.5 million projected new jobs by 2012.
- Service occupations are projected to have the largest number of total job openings, 13 million, reflecting high replacement needs. A large number of replacements will be necessary as young workers leave food preparation and service occupations.
- Office automation will significantly affect many individual office and administrative support occupations. Overall, these occupations

are projected to grow more slowly than average, while some are projected to decline.
- Farming, fishing, and forestry occupations are projected to have the fewest job openings, approximately 335,000.[42]

However, outsourcing and offshoring have become more than a cost-saving business activity; they are now clearly a political issue. The domestic labour force in the USA, which is the largest outsourcing nation, has suddenly realized that the trend to outsource has shifted away from low-wage jobs to higher-wage, traditionally white-collar jobs. Mitigating the need for emigration, nations such as China, India and Russia now have highly educated labour pools who are willing to work at significantly discounted labour rates when compared to US and European employment costs.[43] This continual drive to reduce operating costs within US corporations poses a complex dilemma for domestic US workers, whose short-term livelihoods are threatened while their long-term retirement plans hinge on corporations improving their bottom lines. In short, the vast majority of worker pension funds have significant holdings in large multinational corporations. The pension fund managers place enormous pressure on corporate management teams to reduce costs, which in turn forces them to seek alternative cost structures such as outsourcing and offshoring. Although techniques such as outsourcing and offshoring present a corporation with a viable alternative to skilled labour, they do come with negative side effects, such as a loss of core business process knowledge, a risk of a loss in service due to a sudden political conflict or regional destabilization, or disruptions due to a deliberate national act such as a change in trade agreement, regulation or taxation. One could argue that a corporation's labour strategy or its approach to acquiring and retaining skilled employees should be reflected in the notes to its financial statements, because it introduces new operational risks, as we shall see in the following chapter.

3
The New Balance Sheet

> There are no recipes or formulas, no checklists or advice that describe 'reality'. There is only what we create through engagement with others and events.[1]

Introduction

Throughout previous centuries, when investors bought into a company, they assessed the relative value of the tangible assets and the firm's ability to generate additional wealth using a variety of mechanisms such as the price-earning ratio. The common perception was that a firm with more assets meant a greater generative capability; therefore, a bigger firm laden with tangible assets was better. Adam Smith's and David Ricardo's theories that value was a reflection of the labour required to produce a product were balanced against William Jevons's idea that value was derived from the utility of the product represented by consumer demand. Both ideas seemed plausible and correct, each providing an explanation that value, to most companies, came from tight cost controls and a fat marketing budget. However, throughout the last twenty-five years, the true nature of what generates value is slowly becoming clearer to both investors and management teams: people or human capital, which can be described as assets consisting of knowledge, skills, ideas and talent, indeed plays a much larger part in corporate success than previously imagined. In 1995, the Brookings Institution indicated that there was a measurable shift from tangible assets, which represented 62 per cent of a company's market value in 1982, to intangible assets

J.A. DiVanna et al., *People — The New Asset on the Balance Sheet*

reaching that same level by 1992.[2] During the 1990s, technology was believed to be the key to market differentiation and value came from applying technology to every aspect of business. The collapse of the dotcom businesses put into sharp contrast how firms applied the same or similar technologies with drastically different results. As companies embraced concepts such as reengineering, the balanced scorecard and other new management techniques to reexamine the processes that drive the process of business, they uncovered a hidden asset, human capital.

As recently as the 1970s market value and book value were almost synonymous, indeed 95 per cent of book value accounted for market value. By the end of the 1990s book value was estimated at less than 30 per cent of market value. US Federal Reserve economist Leonard Nakamura estimates that US businesses now invests over $1 trillion per year in intangible assets, a number now equal to US investments in physical assets. Not surprisingly different industries vary in the importance of Intangible assets:

Average worth of intangible assets for top 5 companies in selected sectors:

Pharmaceuticals	$81,336*
Computer hardware	$58,784
Software	$57,778
Motor vehicles	$53,283
Airlines	$7,034
Printing and publishing	$6,468
Apparel/accessories retail	$5,627
Durable goods	$3,434

* Measured by market capitalization in millions.
Data: Beruch Lev and Feng Gu.

A human capital balance sheet is about making the invisible, visible. Equally important a valued representation of human capital is the basis for establishing a more concrete, dynamic and fair work equation for employer and employee. Employers need to manage the costs associated with important investments, which include employee wages, training budgets, healthcare retirement benefits, etc. In turn

employees need to manage their careers including what work they commit to and what talents they develop. Managing human capital is a dynamic process where the balance point is always changing. The dynamic nature makes eliminating temporary imbalances that cause disruption and difficulty almost impossible. The first action that corporations can take to improve the situation is to increase the communication and data that employers and employees exchange. The more self-knowledge that both parties have about their own preference and the better dialogue they have on preferences the more productive work environments can be.

Employers may favour hiring a particular workforce that best supports their distinctive model. Corporations such as US-based Wal-Mart favours operational excellence where wages are not at a premium but stability, training and career growth over the long term are promoted as part of the job package. At the other end of the spectrum, a multinational firm looking for a senior manager to lead their EEC sales force has different expectations. The job expectations in the latter situation may create unwanted stress to some people because the job demands someone with proven sales achievements who will travel over 75 per cent of the time with as much as 50 per cent of their expected pay contingent on meeting specified sales goals – Not a good fit for employees whose is looking to balance their time between work and private life, and may have an expectation of a regular guaranteed income and little travel.

Equally important is market bias. Markets favour and value certain products and services. For example, it is a mystery to some Americans and even more to world citizens why so many urban and suburban Americans favour SUVs and trucks, but they do. Not surprisingly in Detroit, experienced automotive engineers for traction and 4-wheel drive control systems are more highly valued than basic automotive engineers. Valuating human capital is an effort to clarify preferences and help people make informed decisions about tradeoffs they will choose or refuse.

In our view there are historical factors driving the human capital balance that still endure. Adam Smith was one of the first observers of human capital and his perspective on wages still applies in the twenty-first century. In *The Wealth of Nations*, Smith identified circumstances that account for wage differences. The evolution of

these five factors helps to illustrate today's human capital valuation challenges:[3]

1. The 'agreeableness of employment': Smith saw that a journeyman smith earned less in eight hours than a collier did. He attributed the smith's lower wage to the fact that his work was 'not quite so dirty, is less dangerous and is carried on in day-light, and above ground'. Dotcom boom market employers facing tight labour markets with onerous work requirements addressed this point by offering benefits ranging from company-leased cars to massages. However, when labour markets became less constrained and corporate profitability declined such perks rapidly evaporated.

All five of the factors Adam Smith chronicled are interactive with each other and in turn affected by market conditions. During the recent economic downturn certain countries such as the USA have seen a larger than usual dropout rate in the number of eligible employees. Why have these people quit looking for jobs? We postulate that the disagreeableness of many current work environments is partly to blame. Employee surveys showing longer work hours and greater stress testify to this. At the same time, safety nets that are more resilient are provided by government unemployment benefits and dual breadwinners in families. Equally important traditional job measures in the USA and elsewhere are challenged in capturing job creation data among the self employed and in emerging grey market economies.

2. The cost of learning the business: Smith noted that the 'Education in the ingenious arts and in the liberal professions, is still more tedious and expensive' and so accounted for higher recompense of sculptors, lawyers and physicians. Professions that have strenuous entrance requirements or long learning cycles will generally command higher salaries. Witness the wage premiums and employment stature neuro-surgeons enjoy today compared with the nascent trepannier of yesteryear.

Equally important in the twenty-first century is the ever-shorter economic half-life of knowledge. Offsetting this is the emergence of more productive learning technologies and processes. The USA is a prime example of an economy that faces stiffer competition from world competitors that have used education to create knowledge workers. India's investment and productivity in IT education has been a dramatic example of one country's ability to concentrate both

basic and continuing education resources on a valuable service job sector. Equally important, many Indian IT companies adopted more rigorous software development processes. Similar to the Japanese using Demming's quality principles to drive penetration in the automotive market, Indian firms were at the forefront of adopting the US-based Software Engineering Institute's (SEI) Capability Maturity Model (CMM) for IT work. The combination of an educated work force and strong process model helped Indian companies make the case for geographically independent development partnerships.

3. The constancy of employment: Adam Smith observed that masons and bricklayers could work 'neither in hard frost nor foul weather' and further depended on only periodic needs of customers. The daily rate of masons was higher than trades that enjoyed employment that is more constant in order to 'make some compensation for those anxious and desponding moments which the thought of so precarious a situation might occasion'. As employers have moved away from lifetime employment contracts in the USA, they have had to offer higher conditional wages, sometimes in the form of termination benefits. Equally important they have started to foster positive alumni relationships with ex-employees. A firm can maintain a warm relationship with alumni fostering important opportunities for new business referrals or widening its net for recruiting talent. Investment banks and consultancies are no longer the only employers who practise up or out employee programmes that seek to select out a certain percentage of new employees without poisoning future relationships. Key success factors for this approach are informing new recruits that 30 per cent of a new class are expected to leave the firm within five years and that they will receive assistance in making that transition a successful one.

4. The degree of trust or responsibility assumed: Smith noted that, given the precious metals that were their stock and trade, goldsmiths and jewellers received wages superior to other workmen who in some cases had superior ingenuity. This explains why a bank teller generally earns more than a trade retail clerk. Noted examples of discrepancies between responsibility assumed and exercised have produced a backlash on this point when applied to today's CEO compensation. Senior management pay has dramatically increased despite numerous shortcomings in some senior managers' corporate performance or integrity. The saliency of 'soft' factors justifying wage

premiums seems to be declining. Hence *The Economist* cover headline post Enron/Worldcom: 'Where's the stick? The problem with lavish executive pay' (11–17 October 2003). Responsibility for achieving concrete gains in external measures such as stockholder value or customer satisfaction are emerging as truer measures of successfully exercising leadership trust and responsibilities.

5. The probability of success: In Adam Smith's time, the success in the mechanical trades was predictable but not so in the more 'liberal' trades. Apprentice your son to be a shoemaker and successful apprenticeships was almost assured, but send him to study law and, Smith observed, 'it is at least twenty to one if ever he makes such proficiency as will enable him to live by the business'. Hence, those who made the grade of barrister could earn higher wages both because of risk and a constrained supply of labour. Professional athletes and entertainers still bear out the power of this factor today.

Add to these 5 historical factors three different types of work pertinent to the twenty-first century and human capital valuations:

I. **Production work or the least difficult type of information work:** This work has well-defined inputs and a readily structured series of process steps producing a desired service or product. Examples are simple manufacturing, routine work assignments, order entry, etc. This is also work which is generally the first target of outsourcing to partners that can achieve easily defined quality levels in a more economical manner. It also represents the easiest type of work to value. ROI is easily computed from the value of outputs, the cost of the processes to produce the work and the market cost of obtaining the needed skills to drive processes and outputs.

II. **Problem-solving work:** This encompasses more difficult knowledge work but it is constantly devolving into production work as process or technology defines algorithms, optimizes diagnostic capabilities and codifies decision trees. Problem-solving work desires an outcome that is generally known but the worker is required to interpret data and information, to both identify the correct context or problem and then select the right solution. Examples are selling complex systems to clients, non-routine fieldwork, medical evaluation, writing application software, etc.

In an effort to reduce medical personnel costs, many institutional health care providers are using physician assistants to first interview patients and frequently diagnose and recommend treatments. Physicians who represent a greater healthcare expense assume the role of reviewing the PA's diagnosis and recommendation and confirming or revising as appropriate. The implications for valuation are that it requires multi-variant models that look at scenarios for the optimum mix of process change, technology support and work skills.

III. **Development work:** This is the most difficult knowledge work and requires powerful employee–employer communication to deliver rewarding consumer results. It is work that requires creative, iterative or trial and error activities. In turn, this produces efficient work processes to identify correctly the relevant problem and to test, select or invent relevant solution sets. Examples are pharmaceutical research, product innovation, filmmaking, and strategic analysis. The implications for valuation are assessing development work valuations require scenario models as well as historical data and future projections linking skills associated with dynamic processes and technology innovations.

Establishing a meaningful segmentation of key work and competencies unique to your firm is a first step in valuing human capital. For each segment, a firm needs to understand the following:

- **Economic value (EV):** The economic contribution of segmented employee skills or competencies to produce the firm's key products and services. Some firms look at this in the aggregate by simply tracking average revenues per employee or segment it down to sales revenues per sales employee. To establish coherent EVs requires good process definitions that provide a clear line of sight to external results like revenues or customer satisfaction. As well the employee job classes and competencies driving these processes must be well defined and updated regularly.
- **Market value (MV):** The open market value other firms place on the same or similar skills and competency segments. This is established by the price other firms offer in bidding for the firm's existing human capital (talent or knowledge goods) or in the price outsourcing firms charge to lease or, equivalent human capital to

a firm. As the field of genomics and informatics has blossomed, some biotech start-ups have licensed potentially high value 'targets' for lab and clinical investigations. Traditional pharmaceutical companies have rented these databases establishing market values for generating research feedstock.

- **Cost of human capital (C):** The direct costs to employ, develop and retain the firm's key employee segments. These data sets are generally the easiest for a firm to access and track over time. However, the cost and benefit of maintaining human capital may change dramatically in a short time. Remote interactive learning via internet or computer multimedia has drastically reduced some training costs while facilitating better learning retention benefits because they can accessed on a just in time basis. At the other end of the spectrum the cost of providing health care costs for talent has dramatically soared for firms in the USA. For traditional US automakers and airlines, the cost of healthcare and pensions may exceed their traditional cost for tangible inputs like steel for autos. In the US airline sector, new entrants with dramatically different processes and human capital structures are literally driving established firms with brittle human capital structures into bankruptcy.
- **Economic half life (HL):** The projected time period that these skills or competencies are expected to be either unique or primary contributors to creating the firm's mix of key products and services. For most firms economic half-life is generally on a downward spiral. Partly driven by technology, economic half-life is further accelerated by ever more sophisticated processes for reverse engineering and innovation. At the same time, an interconnected global economy readily attracts new entrants to sectors that offer low barriers to entry and high returns.

With this data, firms can better assess issues such as:

1. Should I retain workers in an economic downturn to avoid the cost and delay of rehiring and training new workers when business volume grows?
2. Should I outsource some of the routine back office processes like the information technology help desk or payroll and benefits administration?

3. Should I increase the performance pay component for certain employee segments and if so what performance indicators should the pay be tied to?
4. Should I invest in new IT technology that links up data between customer service management processes and employee relationship management processes?
5. Should I hire a new skill set off the street that can immediately drive new services or invest in training that will allow me to use existing workers who can develop and then apply the new skills?

For almost all these situations, most firms will face uncertainties and data gaps. These can be addressed by creating more than one scenario to cover the most likely range of future conditions or assumptions about missing historical data. Generally human capital analysis should focus on coherent segments of employees and processes in the same way customer analysis segments customers. Let's look at question 5 and see how an examination of both qualitative and quantitative human capital factors would progress for a fictitious company we'll call Techco:

- **Economic value (EV)** is Techco's expected revenue from a new product-service suite. Revenues are projected to be $50m over the next 5 years with $1m/year in revenues coming on line after twelve months, $3m in year 2, $7m in year 3, $16m in year 4 and $23m in annual revenues in year 5. Techco's experience in launching three new service lines over the last 5 years is that two of the lines had problems in meeting projected goals. Additionally, the understaffing in sales or post sales was identified as a key contributor to the shortfalls. Techco identifies three core processes that are at the heart of driving value for the new product–service suite: the marketing/sales process, order entry/billing and service planning/delivery.
- **Human capital (HC)** projections and notes for Techco assume eight full time resources are needed the first year to design, implement, and manage new or modified processes. Year 2 projects ten full time resources will be needed, year 3 projects fourteen resources, and year 4 has sixteen as the staffing count. Techco expects to fill six of the year one staffing needs with internal people with minimum training but that the other 4 positions would

require at least one month of training each to become effective. Of those four jobs, two are in sales and two others are in post sales implementation and service. As Techco examines the turnover in its sales and service departments, they see that the firm is only in the 80th percentile in pay. Techco is also experiencing turnover in sales and service jobs that exceeds their sector's average. Exit interviews show people are leaving not for reasons of better pay in a job class but for better advancement prospects in other firms and a sense of overwork at Techco.

- **The economic half life (HL)** is assumed to be 5 years for the new product–service suite based on the following. The firm has a strong record of process documentation and productivity improvement. Generally, by year 3 of a new product line launch strong training programmes are in place, process management is effective and on the job training can meet future staffing needs of the product/service suite. Five years after launch product suites sales start to peak and thereafter are static or decline as customer's switch to substitute products with better price points or new products with improved performance.
- **Techco gathers market value (MV)** data on five job classes: basic order entry, sales representative, sales manager, service delivery representative and service manager. It looks at fully loaded internal costs for each job class (including recruiting costs, average retention costs, employee satisfaction and turnover rates), revenues per employee in each job class and the training investments required to:
  - take new hires and make them effective in relevant Techco job classes
  - cross-train existing employees to provide the Techco with a more flexible workforce that can readily deploy internal employees to fluctuations in demand and process staffing requirements
  - maintain or grow competencies within a job class
  - promote people from one level to another (e.g. sales representative to sales manager)

They compare these costs with average pay in the industry for these job classes, the percentile ranking of Techco's pay scales and

where relevant the fully loaded cost to outsource or lease these competencies.

Techco might well find that although hiring outside talent might make sense in entry-level jobs, for the middle-management jobs, it is more cost effective to train and promote junior staff. The expectation is that this will both increase retention by upgrading the promotion prospects within the firm, as well as the training, which can be customized to the particulars of Techco's needs. Techco may also decide to increase selectively the reward and recognition aspects of the sales/service managerial positions. This would be a proactive move to prevent firms from raiding the newly minted managers. It might also make good economic sense if the assumption is that losing a manager in sales or service generally results in a replacement needing up to 1 year before he is as effective in meeting important process and revenue targets.

As firms try to gather this data they will inevitably make assumptions and projections that prove in error. Our contention is that the process of getting qualitative assumptions and quantitative projections on paper and then comparing them to experience will improve the ability of managers to improve data collection and human capital management capabilities. Equally important it will help to improve investment decisions. Firms that blithely launch into new markets or assume they can make a new merger work encounter high failure rates. Trying to quantify the full human capital costs is one antidote to ill-considered moves. Return on asset (ROA) is a traditional exercise that brings some objectivity to investment decisions. A similar practice is surely needed in the realm of human capital decision making. When firms take a disciplined approach, they are better able to deliver results to the bottom line and to shareholders.

Watson Wyatt Consultancy has been conducting Human Capital Surveys to document how effective HC management can increase shareholder value. In 1999 the firm conducted its first survey among US and Canadian firms with at least a $100m market value. In 2000, the firm expanded the survey to 16 European countries. Then in 2001, the survey was repeated in North America. The European and new North American data were then merged. For the 750 firms responding Watson Wyatt looked for correlations with those firms' financial performance expressed as total returns to shareholder (TRS) and Tobin's *Q*, a notable economist's ratio charting an organization's

ability to create value beyond its physical assets. The overall findings showed the higher a company's human capital scores, the higher its shareholder value. The study also looked at specifically which human capital practices generated the greatest market value. The survey assessed over forty HR practices and grouped them into six categories:

1. Total rewards and accountability
2. Collegial, flexible workplaces
3. Recruiting and retention
4. Communications integrity
5. Targeted HR service technologies
6. Effective resource management.

Rewards and accountability produced the highest correlations to superior market value while effective resource management was the Achilles' heel that was difficult to implement frequently diminished shareholder value. The former was associated with driving over 15 per cent of the increase in shareholder value for top performers. Fostering collegial and flexible workplaces was associated with 9 per cent increase in shareholder value.

Traditionally these practices are something done to employees by senior managers and HR. As a result there is generally a disconnect between how employees and managers rate the firm's HC effectiveness. Surveys have shown that for many firms less than 25 per cent of employees think management promotes the most deserving or competent candidates. Employees also frequently give their firms low marks in other areas such as dealing fairly with employees who are under-performing.

Making human capital practices more self-managing while still meeting objective accountability goals has fuelled the rise in Employee Relationship Management (ERM) software. Software firms such as Siebel, Peoplesoft, Oracle and SAP have made great strides in trying to automate much of the onerous overhead traditionally associated with HC. The goal is for technologies to not only reduce the cost of administration but also to build ownership at all levels of the organization for human capital practices. As well the more dialogue that can be facilitated by human capital management the greater a firms adaptability in responding to market changes and new opportunities.

What corporations have discovered is that value is generated in the applied use of the firm's human capital assets. Organizations must demonstrate their ability to create new products, innovate, meet competitive threats and rethink their operations, using what is now labelled intellectual capital and was previously called knowledge. In today's rapidly globalizing environment, what is evident is that technology has the power to magnify or leverage intellectual capital to new levels. Intellectual capital is not new; it is the essence of the total applied knowledge of the people within the firm and has the capability to appreciate and depreciate under a variety of circumstances. Along this line of thinking, one can argue that intellectual capital, rather than technology, plays the pivotal role in defining a company's competitive advantage. The increased understanding of where and how value is generated has led to our current dilemma of not having a readily accessible tool with which to place a meaningful value on human capital. As we shall see, a tool is needed to manage and close the gap between a company's market value and the value of its intangible assets. Pioneering attempts such as Morgan Stanley's World Index places the average value of US companies in a range between two and nine times the book value. Since the mid-1990s, a number of corporations and consulting companies have been actively addressing this gap, such as Skandia's Navigator reporting model which created its intellectual capital annual report, the Hughes Knowledge Highway Program, the Canadian Imperial Bank of Commerce loan programme to finance knowledge-based companies using intellectual capital valuations, and Ernst & Young and Arthur Anderson, each developing intellectual capital tools for their clients.[4]

Two things are apparent from all forays into this field of endeavour: assigning value to human capital is difficult because a tangible value is hard to place on things such as knowledge, experience and talent. Furthermore, there are few mechanisms available to quantify the latent potential of the people within an organization. Approaches to these problems fall into a debate on either more rigorous quantitative controls or more meaningful qualitative mechanisms. In our opinion, corporations should not be choosing between the two concepts; both qualitative and quantitative measures must be employed to be effective. The new realization that people are a key differentiating factor in the rapidly globalizing economy creates

a need to develop new measures that build upon existing indicators of productive output. Measurement is not simply gaining a higher degree of control over people engaged by the firm in daily work; it is rather a fundamental mechanism for dialogue between people engaged in the process of work to understand the expenditure of their labours towards production goals. In an effort to reduce the need for management to exercise control over the processes within the firm, mechanisms that feed back data which can be assessed for opportunities, identified for corrective actions and analysed to make process improvements must be established and placed squarely in the hands of people engaged in delivering the process. Measurement systems are useful because they establish clearly defined boundaries within which a business process should operate. Measurements are indicators that reflect the relationship between human capital expended and productivity. Unfortunately, in the past many organizations developed measurements that originated from the finance department as a means to report poor performance. For new measures to be successful, they must overcome the legacy of being perceived as control mechanisms and be touted as a means through which individuals can take greater control over the processes existing within the corporation.

Before we propose a new perspective on the valuation of people as a measured component of the firm, one to be managed and treated as an asset, let us remember two fundamental principles of business: first, that a business's first responsibility is to be commercially viable using resources and people to generate wealth;[5] and, second, that business activities are rarely free of human intervention. These two seemingly simple concepts often elude corporate human asset management initiatives when they overcomplicate the process of measuring the dynamics of human activities within the organization. Without people, there is no business. Without profits, there are no employed people. Increasingly corporations are realizing that people are their most valuable resource; however, this does not always appear reflected in their actions or compensation packages. What this does mean is that if people are indeed an asset of the firm, then they must be managed like an asset, with periodic investment and measures which reflect both an individual's contribution to the firm and an understanding of the individual's involvement in the combined efforts of the groups in which they participate.

One can argue that although the balance sheet reflects the tangible assets of the firm, it presents an incomplete picture of the firm's potential to generate shareholder value. The underlying value of people, or, more precisely, the inherent potential ability of people to generate significant value to a corporation, is understated and perhaps misleading, according to Ivey:

> A balance sheet provides a snapshot of a company's assets at any one moment in time, but how useful is such a snapshot when a company's currency is its knowledge and that knowledge can be transported in a split second? Enron is an example of the problem. An investor could have looked at his balance sheet in late November and have been perfectly satisfied as to the security of his investment, but by December 2 his investment had vanished in smoke.[6]

De Francesco makes a revealing point about the attitude of senior management towards the commoditization of labour (human assets):

> It is hard to say how different organizations would be if they managed their human capital with the same care as their physical capital investments. Arguably, it would be a far different decision-making process when earnings are not meeting expectations. Can you imagine the reaction of the Wall Street analysts if a company said it was going to cut costs by shutting one of 10 plants? Imagine if they said they were going to 'pay' to get rid of the plant? Can you see the stock price soaring? Now think of the typical 10 per cent reductions in force lay-offs with a generous severance or early retirement package. How attractive is this to shareholders?[7]

The United Kingdom's Task Force on Human Capital Management makes an important point: 'Information on HCM [human capital management] will only be useful to shareholders and other stakeholders if it is trusted, both in terms of the reliability of data given and in providing a balanced and objective view of the organization's practices and performance.'[8] Therefore, in addition to establishing a measurement of human value, corporations must also communicate the underlying means of reporting to provide a relative mechanism

for value against other corporations. In this light, corporations have two choices: simply wait for a standard to be developed by government agencies, which in all probability will take years; or they can proactively engage the issue by creating the required mechanisms and begin reporting the value of their human capital under their own definition. One concern which the UK's Task Force on Human Capital Management has is that establishing meaningful metrics to compare and contrast an organization's human assets must be accomplished cautiously, not with an overprescriptive approach which may act to stifle innovation, prejudice commercial confidentiality or become unduly burdensome.[9] One theory is that as more firms begin to report the value of these assets, a standard set of reporting mechanisms will eventually emerge organically within the market. Corporations attempting to lead the market will undoubtedly discover that single-number representations found in accounting practices such as return on investment may not portray the complexities of the human capital employed. In most cases, both quantitative and qualitative measures will need to be established and correlated to each other to provide a robust measurement that will satisfy investors and other external stakeholders.

Human Capital is a key driver of research and development. Baruch Lev makes this point about the ramifications of not assessing objectively opportunities for investing human capital:

> Managers, meanwhile, often fly blind when deciding how much they should invest in intangibles or which ones offer the best rewards. In the case of investment in research and development, for instance, companies not only spend too little but also shift resources from risky next-generation innovations that could be potentially lucrative to trigger modifications of current products and technologies. What ought to be be the cutting edge of corporate progress is as a result blunted, to the detriment of both companies and the economy.[10]

Genrich Altshuller was a pioneer at evaluating innovation rankings for patents and launching TRIZ, the Russian-language acronym for the Theory of Inventive Problem solving, a structured methodology for innovation. Altshuller's prime axiom was 'the evolution of all technical systems is governed by objective laws'. When he applied his

hierarchy of innovation to patents, he found the following:

Patent characterization	**Percentage of patents**
Find a new problem Develop whatever new constructs are needed Modify all systems in which the new concept is implemented	0.3 (3/10ths of %)
Find a new task Create a new design Use the design in a new way	4
Change the task and existing design Manufacture the new design	19
Improve a specific task Using an existing design already in production	32
Select task for improvement Choose an appropriate design Manufacture a modification of an existing design	45

The Innovation Algorithm: TRIZ Systematic innovation and Technical Creativity; Genrich Altshuller Technical Innovation Center 1999.

Other sources acknowledge a slippery slope of funding eroding innovative research in favour of prosaic development. The Industrial Research Institute, which chronicles members R&D plans shows directed basic research, has declined every year from 1993 to 2003. The US Federal Reserve Bank pegs US R&D spending at about one-third of what it should be.

Measurements, performance ratios and other indicators may provide a reasonable assessment of a firm's ability to marshal its human capital assets into a growing productive force. Yet these indicators must also be considered in a relative industry context to be meaningful, as observed by SAS International:

> Managing intellectual capital means finding rigorous ways to track performance on multiple dimensions and to correlate that performance with financial results. It means being able to custom-define indicators to reflect the organization's unique sources and uses of intellectual capital. One company's indicator might be trivial for

another company in a different industry or one pursuing a different vision.[11]

Although corporations embracing the emerging global business environment are professing that people are their greatest asset, it is interesting to note that their actions rarely reinforce this notion. More importantly, the firm's key asset (people) is noticeably absent as a definable item on corporate balance sheets. For many organizations, people are categorized purely as an expense which must be minimized. What is more baffling is that human capital assets are surprisingly difficult to be assigned a meaningful value to. One could argue that the non-disclosure of the quantity, quality and significance of these assets in firms engaging in work that is directly dependent on intellectual output (such as research firms, consulting companies and universities) is misleading to investors. Corporations contend that human assets are intangible, and therefore they do not require valuation and measurement. This may have been true during an industrial economy. However, in today's knowledge economy human assets are a vital component of the firm's value proposition. As a result, the inherent value of the people employed by the company and the external relationships extended by the firm must be valued and assessed.

Karl Erik Sveiby is an advocate of recognizing 'organizational and individual talent' as 'intangible assets' on corporate balance sheets, reflecting people as corporate assets of the knowledge economy.[12] Measuring the potential of a firm's employees poses a unique set of problems for a corporation because it requires establishing a valid means of assigning value to human endeavours that are seemingly intangible due to the nature of human behaviour. Developing a mechanism that reflects a relative value is only part of the equation; as Aldisert points out, information captured as a result of measurement can be analysed to determine linkages.[13] In Aldisert's view, intangibles can be made quantifiable by establishing a measurement, introducing the measure via a pilot programme and adjusting the measure based on feedback. Once the value is understood by the organization, it can be adopted. The rate of adoption is often a product of two key factors: the usability of the information to make decisions that optimize production and the commitment to the measure by the senior managers of the firm. Aldisert's point is that the goal of the intangible elements of the corporation is to enhance the firm's return on investment in which case measurement of human capital

provides the means to assess the rate of return relative to each individual measurement. One can assess relative qualitative and quantitative measures to estimate an overall value by dissecting the problem into four distinct categories: individual value, the compound value generated by a group, current rate of value creation and potential future value-generating capacity.

Individual value

An individual's value is difficult to quantify or qualify. Personal qualities like leadership and innovation are hard to quantify. Organizations have used a variety of qualitative measures to assess the relative value of skills such as the ability to motivate, confidence, leadership and perception. However, a rule of thumb is to keep it simple; establish the characteristics of people that are valued by the organization to fulfil customer and shareholder expectations. We will see in the case study on p. 126 that the organization identified twelve essential skill sets. The primary criterion for each skill was its ability to directly contribute to the firm's value proposition. The key skills are marketing, sales ability, mentoring ability, network of people, the need for structure or the ability to work under ambiguous conditions, administrative ability, research ability, ability to summarize, technological fluency, relationship-building, speaking ability and facilitation skills. The organization realized that no one person would be exemplary in all twelve, and would for the most part excel in five or six key skill sets. If a person was missing a key skill or scored lower than the corporate average, they were seen as an opportunity for mentoring. Another individual measurement was based on how many new skills or achievements at a higher level of proficiency in an existing skill a person acquired via mentoring each year.

Compound value

A more difficult activity is to develop an understanding of and subsequent worth for the compound value generated by a group. One could argue that group interaction is best measured simply by attaching a value to the total production of the firm over a given period. However, this does not take into account many unmeasured activities such as the periodic process improvement that is a direct result of teamwork, innovation occurring from group interactions or workshops or new levels of intra-company collaboration. Venture capitalists say that a management team's working style and individual

ability to work together are critically important to the success of the company. The ability to work as a cohesive team is often called an 'organizational chemistry', where the backgrounds and style of a team mesh well with the needs of the objectives, goals and business processes of the organization. An organization's chemistry is often a critical decision factor used by venture capitalists in determining whether to invest in a given project. In cases where it is obvious that the organization's chemistry lacks the background or skills to bring a company to the next revenue level, venture capitalists will often walk away from the opportunity. This raises an important question in measuring the organization's effectiveness: how do venture capitalists measure, evaluate and rate organizational chemistry? The valuation methods used by venture capitalists are different depending on the firm's level of maturity or development. Early-stage companies are often valued based on the commitment of the founding team in measures such as the management's investment or contribution in the form of hard dollars, hours expended to date or sweat equity, and a relative measure of intellectual capital in the form of patents, product designs or business models. However, in many cases, venture capitalists will tell you that one unquantifiable measure is gut feeling, difficult to express in numerical terms but often a true indicator of what the compound value of the group will be over time.

For our purposes, the measurement of organizational chemistry plays an important part in a firm's ability to assign a value to the human capital of the firm. Organizational chemistry is for the most part simply the ability to work together, which can be rationalized as the firm's *esprit de corps* or morale. Direct observations of business activities such as employee turnover, absenteeism and disciplinary actions may indicate a low compound value. Organizational behaviours such as periodical think tanks for product improvement and innovation and other team-building activities are visible signs of the organization striving to improve the firm's overall compound value.

Rate of value creation

Understanding the organization's chemistry is vital in establishing the current rate of value creation, which is a metric that can be established by assigning relative values to business activities. For eighteenth-century thinkers such as Adam Smith, the rate of value creation was dependent on the degree of specialization of the economy and the

intensity and complexity of exchanges taking place within its boundaries.[14] Within today's organizations, the rate of value creation is often an expression of achieving a new level of quality or an increased level of production output validated by higher total sales volume. That said, few corporations measure the rate of value creation by employees as a distinct and separate business process, opting to think that increased stock price reflects a higher rate of value creation. Unfortunately, stock price is rarely a reliable indicator of the rate of value creation simply because it is more often than not controlled by factors outside the firm. The rate at which value is created should not be based on forensic measurement. The organization must create value at a rate that is predetermined by management, not as an accidental product of continuous improvement or other strategic initiatives. The rate at which the firm creates value is directly proportional to the amount invested in direct improvement or innovation activities multiplied by the acquired knowledge of the firm assigned to the process of improving the rate of value creation.

Future value

Measuring the potential future value-generating capacity of the firm is indeed problematic. Industry gurus, academics and business specialists are still divided over what approach is the best indicator of an organization's ability to generate long-term value. Admittedly, no single method appears to apply to all corporations in all industries with a uniform result. However, this lack of an agreed standard method is by no means cause to ignore the need to establish a measurement for future value. The numerous approaches present an opportunity for organizations to adopt or adapt a method that best fits their need to value human capital. For many organizations, finding an appropriate measure will be a trial-and-error process in which each method will either provide them with meaningful information on the productivity and performance of the organization or not. Because this area of study is so vast, we will provide a brief description of the more popular approaches for two reasons: to act as a reference point for our approach; and to simulate thinking on these methods as a means to encourage their adoption. Remember that each method reflects a different vantage point on the performance of the organization and many require adaptation to match the underlying business processes that it will ultimately measure.

Economic value added (EVA)

The concept of 'economic value added' or EVA (a registered trademark of Stern Stewart) was originally coined by Bennett Stewart, who claims that EVA has the advantage over other metrics because it is conceptually simple and easy to explain to non-financial managers. Young and O'Byrne put it succinctly: 'EVA measures the difference, in monetary terms, between the return on a company's capital and the cost of that capital.'[15] EVA uses the measure of operating profits which is familiar to managers and subtracts from it a charge for the capital invested (similarly to a bank charge). EVA enables this measure to be applied against specific organizational destinations in corporate structure such as the total company, a business unit or operating unit, and a separate function such as a single manufacturing facility, joint venture or remote location. The flexibility of the approach enables its application at micro-activity level such as a single production line or product.[16] Simply, economic value added assesses a charge for using capital, which in turn makes managers focus on managing assets as well as income. Perhaps the most important aspect of EVA is that it encourages managers to assess the trade-offs between managing assets and income under a more complete view of the firm's activity.[17]

Market value added (MVA)

Another concept floated by Stern, Stewart & Company is market value added, which is the difference between the equity market valuation of a company and the sum of the adjusted book value of debt and equity invested in the company. Simply, MVA is the sum of all capital claims held against the company, the market value of debt and the market value of equity expressed in the following formula: market value added (MVA) = market value − invested capital. Basically, MVA is the future value of a company's economic value added. Without digressing back into a long discussion on EVA, let us briefly describe it to see how it applies to the topic of measurement. One can argue that to increase the corporation's EVA, you must increase the organization's productivity, and/or decrease the cost of financing, and/or find profitable growth opportunities.[18] One of the key factors of MVA is that it measures wealth in dollars rather than rate of return as a percentage, thereby distinguishing all

value-added investments, even those that dilute the original rate of value creation.

Regardless of the approach used by corporations to understand the dynamics of the value of what people can create, produce and deliver, a measurement is required to enable management, investors and more importantly the people within the business processes to accurately assess their relative contribution. Measurement in all forms provides vital feedback to the business process which in turn is used to alter various aspects of production such as a change in quality or quantity, on-time deliveries and to generally meet customer expectations. However, as Nyberg and Birchard point out, a measurement that is introduced by senior management and imposed on the organization to promote a specific behaviour, which over time is no longer valid, acts to retard the value creation process:

> A decade ago, for example, managers at Briggs & Stratton, a long time EVA user, measured the performance of the company's big, unionized engine plant with EVA. But, eventually, they realized it was wrong for the factory, and started using productivity instead. The reason: Most of the plant's 1,000 workers couldn't affect any decisions relating to capital expenditures.[19]

Measurements such as EVA and MVA introduce into the workforce the identification of the key drivers of the underlying business processes. Moreover, these measures depend on a disciplined approach to evaluating the key drivers relative to the goals and objectives of the firm. To make the management of these drivers significant to workers and line managers they must feel that they are able to some extent to control things that influence the driver such as production efficiency, attendance, reduced set-up time, waste, quality or other direct actions on their part. Therefore, one could argue that measurements must be interactive in their design and used in order to achieve a meaningful dialogue with the people who will use the measurement to control production.

The measurement of human capital centres squarely on developing an understanding of the complex relationship between assessing the value of the firm's intangible assets, creating a meaningful dialogue with the individuals who employ human resources, and the human

resources themselves. Baruch Lev provides us with insight that is essential to our understanding of the relativity of human capital value:

> Economic slowdowns and capital declines do not change these fundamentals: that an enterprise's competitive survival and success will primarily depend on smart intangible investments leading to innovation and effective commercialization.[20]

This distinction is important because investment in intangibles such as education and training, group working sessions, innovation activities and other creative endeavours are often overlooked as not contributing immediately to the bottom line. Making strategic investments in intangible assets is difficult for management teams that are motivated by short-term-focused stockholders. It is important to consider this when devising a measurement of the relative contribution of people simply because the value of their contribution may lay dormant until the right conditions prevail. Let us assume that the latent future value of an individual is a non-physical claim to the future value of the firm and that people will possess a future behaviour that enables them to make a contribution to the firm at a later time that is equal to or greater than their relative contribution today. In other words, as people acquire new skills and experience and become more aware of changing market conditions, their ability to adapt their skills and reapply their knowledge to the betterment of the firm acquires, by default, an underlying value. Therefore, as a firm makes investments in the people it employs, this investment should be recorded even though the return on that investment may not occur until a specific set of future conditions are met. For example, a corporation may invest in educating a group of young managers to be the production supervisors of the future, targeting key people as replacements for retiring managers.

Understanding the relationship between investment in people and the return on that investment is vital in the establishment of meaningful measurements. Let us make the following asset-like assumptions when establishing a value for human capital:

- Skilled people are not scarce.
- People can be deployed without geographic constraints.
- People increase in value as their skills and experience accumulate.

- People generate ideas which are in turn scalable across a group.
- People generate innovation; people can optimize organizational practices.
- People generate increasing returns.
- People have multiple uses and can be repurposed.
- Knowledge as a fundamental raw material can be considered as possessing future value.

In addition, we should also consider human capital issues that act to depreciate people assets:

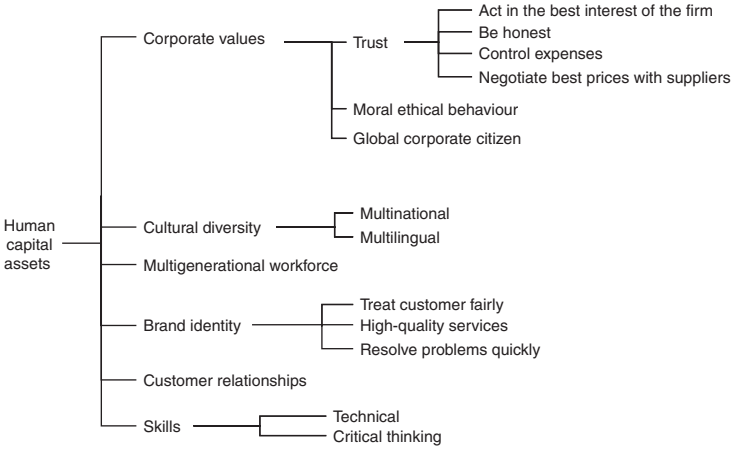
- People are sometime difficult to manage, coming and going at will.
- People knowledge is often difficult to exploit.
- Intellectual property rights are increasingly difficult to secure.
- Innovation requires a catalyst or environment to produce predictable results.
- Investment in people carries an inherent risk due to mobility.
- People require motivation, inspiration and a positive corporate culture.
- Human capital has many variant forms (e.g. multi-cultural, generational).
- Unlike tangible assets, human assets must be organized and periodically reorganized.

Figure 3.1 illustrates the characteristics of human capital assets which can be considered as variables in the calculation of value. Against this backdrop of characteristics of human capital is an underlying set of motivations primarily the responsibility of senior management whose motivation may be at odds with managing people as an asset. Shareholders' short-term interest also alters how human capital is valued.

Short-termism

During the last three decades of the twentieth century, investment bankers, corporations and industry analysts began favouring concepts such as 'discounted future cash flows' as a better means for predicting a company's potential stock price. Sadler rightly points out that insights gained by this new methodology identified undervalued

Figure 3.1 Characteristics of human capital assets



corporations, which in turn led to two distinct market phenomena: corporate raiding extracting a short-term profit as a result of restructuring; and a management behaviour that is focused on driving up the stock price in order to sell the firm to make a short-term profit.[21] Neither of these activities holds little regard for the longevity of the firm. In many cases, as Sadler points out, the ends became the means. The intention of establishing a new measurement for the human assets of the firm is not to usher in an era of talent-raiders who will view the human capital of the firm as a component to be commoditized and traded. No doubt they will, but this is beside the point. New measurements are developed to give management teams a new tool with which to manage their human capital for both the long-term goals and short-term objectives of the organization. If the organization's performance is directly proportional to the existing knowledge and potential hidden capabilities of the people within the firm, then having a measurement that reflects both of these values is critical to developing corporate strategies. These measurements are analogous to driving an automobile; one knows that a 300 horsepower engine cannot go 600 kilometres per hour. This known measurement enables one to realize the upper limits of the performance of the automobile. Therefore, management teams realize that in order to drive the performance of a 300 horsepower engine beyond its limits, a tangible

lever is required. For corporations, the limits of their human assets can be increased in three ways: by adding technology, by educating the people, or by changing the process. However, as we all know, process change also means organizational change.

The issue of measuring the value of human capital can be applied to corporations across industries within a nation state or geography (macro scale), within a corporation or a group inside a corporation (micro scale), or applied to a specific industry group or across industry groups (specific applied measurement). An example of applied measure for human capital can be seen at Spencer Stuart, where they have developed the Human Capital Market Index (HCMI) for executive recruitment.[22] The HCMI quantifies the market for human capital by creating an index which is comprised of four key elements: demographics, market liquidity, volatility and market value premium, as illustrated in Figure 3.2. In Spencer Stuart's methodology, demographics serve to represent macroeconomic changes to the supply and demand for executive talent. Market liquidity is defined as the number of executive positions open relative to the number of executives currently unemployed. The volatility factor is the rate of change in career dynamics indicating an average of upward and downward employment demand trends. The market value premium is a quarterly assessed ratio of market capitalization to asset value for the entire market represented by the S & P 500.

All organizations regardless of size, culture, industry, geography and customer are in a continuous process of change. The degree of change fluctuates because of a wide variety of conditions such as advances in technology, skills and education of the workforce, new competitive threats and many other factors. Measurement provides data on the degree of change as it occurs and information in which to act to take corrective action, capitalize on opportunities and launch initiatives to alter the fabric of corporate activities such as business process reengineering. In order to respond intelligently to business change, senior management must have reliable information on the

Figure 3.2 Spencer Stuart's Human Capital Market Index

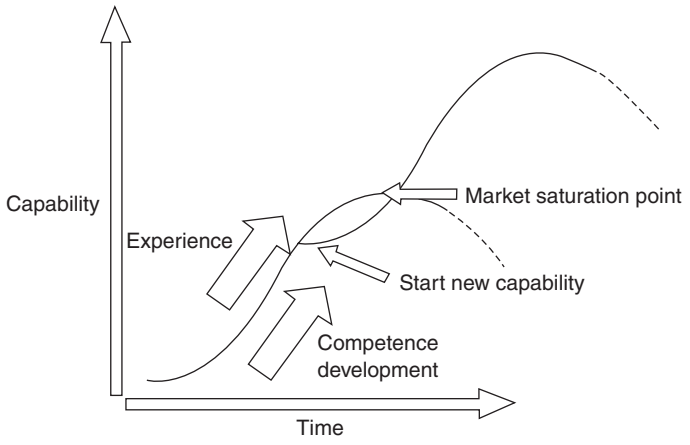
$$\text{HCMI} = \left(\frac{\text{Macro-level executive demand}}{\text{Macro-level executive supply}}\right) + \left(\frac{\text{Micro-level executive demand}}{\text{Micro-level executive supply}}\right) + \text{Market volatility} + \text{Market value premium}$$

state of the firm's human capital. Measuring human capital by quantitative and qualitative means gives senior managers and employees the ability to view the capabilities of the organization with increasing clarity. Likert reminds us that measuring the organization's capabilities also requires considerable competence because of the complex relationship that exists between cause and intervention:

> Accurate data are not obtained by merely asking people what they think and how they feel. It takes at least as much sophistication and competence to set up measurements to obtain correct data concerning the causal and intervening variables as is required for accurate accounting.[23]

As organizations shift from hierarchical management into a networked structure, they must establish a process of continuous learning to remain competitive. Alternatively, corporations can recruit talent as changing conditions demand if they are willing to incur the additional cost of recruitment, orientation and initial delay in productivity. Another problem occurs if other firms also require the same skilled individuals; the firm will find itself always acquiring talent at a premium price, thereby raising operating costs over time, as illustrated in Figure 3.3.

Figure 3.3 Competency development cycle

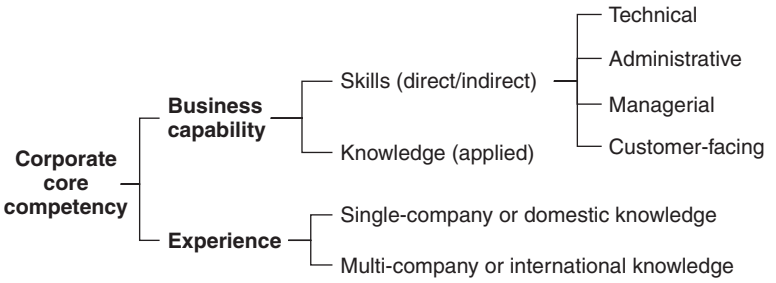


The key to increasing the value of human capital assets over time is to establish a process of continuous reinvestment encouraging mentoring, learning and skill development. More importantly, the process must be designed so that this continual influx of new knowledge can be applied to improve the performance of the organization, deliver new products or process innovations and significantly advance the delivery of customer services. To meet these challenges, corporations are establishing cells of competencies that delineate work into two distinct categories: core competencies and non-core competencies. A corporation's core competency is a discrete activity such as a product or service distinction that the firm can do better than the competition. A core competency is 'an area of specialized expertise that is the result of harmonizing complex streams of technology and work activity'.[24] According to Prahalad and Hamel, core competencies have three characteristics: they provide potential access to a wide variety of markets, they increase perceived customer benefits and it is hard for competitors to imitate them. Leonard-Barton describes a core competency thus: 'capabilities are considered core if they differentiate a company strategically'.[25]

Gallon *et al*. make an important point which one must consider when establishing a value-based measurement for the corporation's human assets: core competencies are 'aggregates of capabilities, where synergy is created that has sustainable value and broad applicability'.[26] In their view, core competencies can be categorized into distinct capabilities such as core marketing competence or core technological competence, which in turn must be distinguished from individual competencies, or capabilities. Core competencies represent the aggregated knowledge of the firm, not an individual's knowledge. However, in the case of a start-up company, an individual's knowledge may be the firm's core competency until business processes can be established, solidifying the knowledge into a tangible set of discrete activities.

Therefore, in the development of measurement that establishes the value of human assets it is important to distinguish between individual capabilities, non-core and core competencies. For our purposes, the individual capabilities within the corporation are stand-alone and are generally considered in isolation. For example, one may take into account a group of individuals possessing a specific skill set not organized into a community of practice. In Galunic and Rodan's view, 'a core competence differentiates not only between firms but

Figure 3.4 Corporate competency diagram



also inside a firm it differentiates amongst several competencies. In other words, a core competency guides a firm recombining its competencies in response to demands from the environment.'[27] Coyne *et al*. proposed that 'a core competence is a combination of complementary skills and knowledge bases embedded in a group or team that results in the ability to execute one or more critical processes to a world class standard'.[28] Figure 3.4 provides a composite view of the elements of a core competency.

To develop a meaningful measurement of human capital assets, an organization must first define the core and non-core competencies by isolating its key abilities and unique strengths. The measurement must also lend itself to compare competencies and capabilities with other companies that are in direct competition and/or within the same industry. Perhaps the most telling aspect of defining a corporation's competency is developing an understanding of what capabilities their customers truly value. Moreover, the measurement of human capital assets is for managers and professionals an abstraction of the future performance of the organization. Subsequently, a valuation of human assets must also be employed as a useful indicator of present performance as well as of potential future value generation. This duality of purpose presents the firm with another obstacle – how the measurement will be used in conjunction with incentives and other motivational mechanisms. In Maitra's view, the link between performance, measurement and incentives must be approached holistically to be effective:

> My views are, that incentives do more harm to people than anything else. Because when you give incentives to a person, you

> are treating him as a commodity and if you keep on incentivizing your performance parameters then at a stage where the organization does not do well, the people will leave the organization when they are needed most. No organizations can continuously do well financially – there will be ups & downs and if the primary way of rewarding is giving more money, it is likely to fail. In Performance Management, the most important thing is Role Clarity. People should be given Key Performance Areas and targets so that there is no ambiguity, they can perform well & at the end of the year, the rewards should come partly financially and more in terms of challenging job assignments or better career prospects. Bright people look for certain key things in life like, better learning opportunities, value addition to own life, challenges in career/future and then only compensation/perks come. Further they should be coached and mentored by the organization for their development.[29]

Maitra makes a key point: a measurement such as the valuation of human capital must be clear and meaningful in three ways: to shareholders (in a fair representation of the organization's future potential), to management (as a mechanism to target long-term investments for future growth objectives) and to employees, who can self-assess, rate and manage their performance relative to an organizational benchmark. The creation of a measurement to assign a value for human capital within the firm should not be used as a mechanism for ranking individuals. Ranking and rating systems tend to demoralize people, acting counterproductively to the firm's corporate culture. An individual's talent, skills and experience must be recognized in a positive manner while the shortfalls in these areas must be viewed as opportunities for investment. It is the role of senior management to create an environment of positive reinforcement not only to improve morale, but also to establish the conditions that enable individuals to form work behaviours that empower them to make decisions for the betterment of the firm. The United States Government Accounting Office notes that there is a direct link between motivations, incentives, work arrangements and the contribution made by employees:

> The more an organization recognizes the intrinsic value of each employee, the more it recognizes that this value can be enhanced

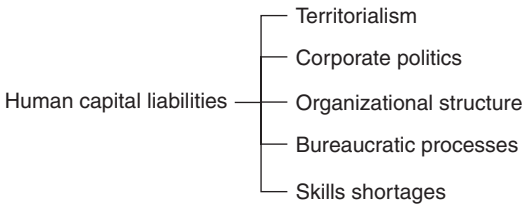
> with nurturing and investment, the more it recognizes that employees vary in their talents and motivations and that a variety of incentive strategies and working arrangements can be created to enhance each employee's contributions to organizational performance, the more likely the organization will be to appreciate the diversity of employee needs and circumstances and act in ways that make sense in both business and human terms.[30]

Savage reminds us that human capital measurements must be transparent, thus providing a clear understanding of how they apply equally to all levels of the organization. More importantly, when human capital valuations are tied to performance measures and compensation systems they must clearly demonstrate how group collaboration and other non-individual activities are recognized:

> All too many organizations preach one kind of behaviour while their systems reward the opposite. Many advocate co-operation, team working and empowerment, while simultaneously rewarding competitive, individualistic and political behaviour. Their payment systems and bonuses are all based on individual results. Promotions are decided on a competitive basis. Recognition comes through patronage and influence, encouraging approved behaviour towards those who have power. Top executive privilege is carefully protected. The rhetoric may be about co-operation, but systems such as these only reinforce individualism. Executives with golden parachutes and re-priced stock options send a powerful message to the rest of the organization about the need to look after number one.[31]

To add to Savage's point, ill-balanced compensation systems are one of several potential liabilities which will act to devalue the human capital assets. Corporate compensation systems, politics and territorialism are intangible liabilities which when aggregated across the corporation act to drag down the potential achievement of people working intra-company. One could argue that the mere structure of the organization's hierarchy acts to further retard the corporation's human capital asset utilization simply because of the weight of the bureaucracy acting to regulate the momentum of corporate initiatives. Human capital liabilities, illustrated in Figure 3.5, must also

Figure 3.5 The composition of human capital liabilities



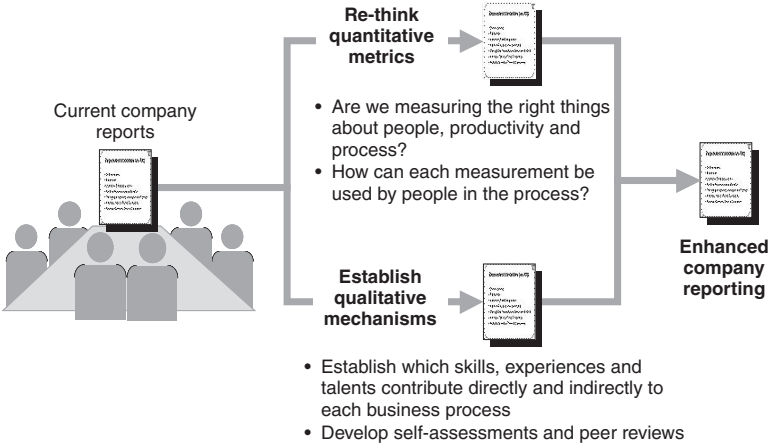
have a corresponding measurement to that of human capital because of their power to devalue assets.

For many companies, another less evident liability, the cost of people and the commoditization of labour, is a cause of concern. In order to alleviate the rising cost, corporations since the 1990s have turned to outsourcing job functions to geographic locations that have a lower wage cost. At first, these functions were non-core activities and/or support functions. Over time, more core activities and entire business processes are following this path of cost savings. This is a key factor to consider when assessing the value of the firm's human capital. Outsourcing does not erase the value of people in the process; it does, however, alter the classification of the assets and the ownership of the knowledge. Therefore, human capital assets fall into three broad categories: full-time employees, contract employees and outsourced or external labour. One could make a case that each category of human capital should have its own representation on the balance sheet similar to classes of stock (for example, common, preferred, voting and non-voting).

We have chosen to examine a composite of several companies who adapted a simplified spreadsheet to understand better the qualitative and quantitative aspects of human capital valuation. The organizations wished to remain anonymous at the time of this writing, so our case study company will be referred to as Educate. Each company elected to undertake a simple process in which the process of enhancing the existing balance sheet to reflect quantitative and qualitative aspects of human capital was a three-step process illustrated in Figure 3.6.

Each company had to develop a simple version of their balance sheet and income statement (removing or summarizing complex

Figure 3.6 Enhancing the company reporting process



financial transactions). Next, they underwent two simultaneous activities: a rethinking of existing quantitative metrics and the establishment of meaningful qualitative mechanisms. Each firm came to a similar conclusion that a reeducation of employees, shareholders and management would add to the significance of these factors relative to the firm's goals and objectives. In the next three sections, we will examine a number of approaches to establishing a value for human capital and ultimately placing an indication of the intangible value of people on the balance sheet. As we have discussed above, corporations must explore the issue of human valuation from two distinct perspectives, that of qualitative indicator and quantitative measures. These two aspects will be discussed separately in the following section. The final section in this chapter will examine the implications of placing human capital assets on the balance sheet to better understand how an organization should approach this problem.

Qualitative metrics: a humanist approach

> Management will recognize the need for education and retraining when they realize that people are an asset and not an expense.
>
> William Scherkenbach[32]

Developing a mechanism for measuring the value of human capital assets and, more importantly, establishing a metric that monitors the effectivity of human capital employed is a subject that fills a multitude of books, as corporations come to the realization that the intrinsic value of technology is not simply ownership and implementation but technology's application, adoption and adaptation to the firm's value-added processes. The latent value of the firm's human capital is in its ability to apply technology that is a product of human ingenuity, innovation, knowledge, customer awareness and process understanding. Therefore, corporations now understand that people have an inherent value, which for most companies is a dormant underutilized resource.

In De Francesco's view, senior management teams know that people are indeed more valuable but have difficulty articulating their value:

> Although we would agree that most CEOs are acutely aware of their investments in their most valuable asset (salaries, benefits, training, recruitment programs and the like), almost none could tell you what their most valuable asset is worth.[33]

What is apparent is that no single mechanism or method for measuring the value of human capital assets has emerged as a worldwide standard. However, numerous academics who have spawned consulting firms are all vying for the adoption of their method as a standard. More importantly, establishing a metric that monitors the effectivity of human capital employed is, with the exception of a few aforementioned pioneers such as Stewart, Standfield, Sveiby *et al.*, still more art than science. That is to say, the bulk of work in this area is still the labour of academics and human resources practioners and less of the average line manager or shareholder. The most striking notion is that the vast majority of this work centres on the establishment and utilization of measurement mechanisms by the human resources (HR) department or other personnel-related organizations. One could argue that the HR department has the best vantage point for assimilating this information but has a limited view on how to make it applicable as a day-to-day component to be used by the business. Regardless of the origination of measurement of human capital, it is apparent that a meaningful valuation requires two interoperating components: a quantitative element and a qualitative factor.

For the most part, the establishment of a qualitative factor becomes the more personalized aspect of human capital valuation simply because people are at the heart of the equation and are the best and most cost-effective mechanism to assess the relative quality of human endeavours. Interestingly, the Unites States Government Accounting Office advocates the self-assessment of human capital under a five-part framework, as stated in the following quote:

- Strategic planning: Establish the agency's mission, vision for the future, core values, goals and objectives, and strategies.
- Organizational alignment: Integrate human capital strategies with the agency's core business practices.
- Leadership: Foster a committed leadership team and provide reasonable continuity through the succession process.
- Talent: Recruit, hire, develop and retain employees with the skills for mission accomplishment.
- Performance culture: Empower and motivate employees while ensuring accountability and fairness in the workplace.[34]

To place people in the position of self-assessment of the quality of their own work requires a high degree of trust by senior management, shareholders and collaborating organizations. In many cases, quality is simply a matter of perception such as the case of academic education, between various types of higher educational institutions like Ivy League schools. The quality of the institution is its brand name; there are several universities providing excellent education as well, but they are not perceived as of the same quality. Creating a numerical value for qualitative aspects of intangible human capital is complex, seemingly impossible. It would be easy to develop academic formulae to demonstrate qualitative relevance; for our purposes, however, we have elected to keep it simple, primarily because the mechanism has to be meaningful and easily understood by everyone in the firm. Let us say that in order to record the qualitative aspects of human capital assets, they will be represented in two ways: a simple number to qualify any numerical value the firm establishes for the quantitative aspects of its people assets and a series of annotations to accompany notes to the financial statements to explain general assumptions and extraordinary circumstances. When introducing these additions to the balance sheet, the value of intangible assets such as human

capital should fit the following criteria: it should be clear, credible, demonstrable and comprehensive.

Perhaps the most important point regarding this discussion is that any qualitative measurement must show consistency between the activities contained within a business process, the skills needed to execute process-level work and actions undertaken by people that are directed to improve, adapt or innovate. In other words, a qualitative measurement must elaborate on the quantitative measurement. For example, 'this year we discovered 25 new chemical compounds' sounds less impressive when qualified with '23 were by accident'. That said, our discussion now turns to understanding the process which incorporates a qualitative aspect to more easily, calculated quantitative measurement.

To dissect the problem, we will use three fundamental steps as a foundation for explaining the qualitative aspects of human capital valuation in both humanist and financial terms. The first step involves an understanding of income and expense; step two entails establishing a return on investment. Finally, step three requires interpretation and utilization of results. In order to capture the essence of the concept of capital valuation, we will use as a case study a small research and advisory firm called Educate, whose primary output is training and education. Educate is a composite company in that it represents elements of the companies that participated in our research without compromising any of the intellectual property contained within any one firm that would in turn devalue their competitive advantage. Our methodology is based on rethinking numerous approaches to custom-build an approach that would best fit the requirement of the organizations that were in search of a solution easily used by employees. This methodology represents merely one approach to the problem.

Case study: research and advisory firm

Let us set the stage for this approach. Educate is a small 14-employee firm specializing in providing educational events and training programmes for large multinational businesses and small to medium-sized enterprises (SMEs) as their primary revenue stream. Educate has a secondary revenue stream that is commissioned research and the sale of trademarked methodologies, which can be licensed by clients to facilitate meetings, train employees, manage software development

projects, organize strategy workshops and a host of other business techniques that businesses can use to be more effective. The company decided to establish a team of three people and two external consultants to address the problem of understanding the value of intangibles such as people, brand identity and innovation.

Educate's approach was first to identify what they did that was valuable to customers and subsequently map out the major business process activities used to deliver on customer expectations. The team elected to simplify their business process decomposition by only identifying three major activities (or core process steps) for each revenue stream. For each activity, two core competencies would be identified and a non-core supportive competency would be listed. The objective was to identify the key skills, knowledge and experience levels needed to fulfil the primary process steps or key business activities. The Educate team believes that the firm has several key capabilities that customers do value: executive education, professional training and advisory services. Providing licensed methodologies to clients was identified as a new capability, less than one year old, and should be documented even though its revenue was small, as it had long-term potential. In Educate's model, in order to have a capability, the firm must be competent, possessing varying degrees of competency in executing the underlying components of their business processes. The experience of the firm, on the other hand, is what separates it from the competition because of the high degree of customization required by client organizations in establishing a curriculum (educational requirements), adapting event activities to a wide variety of venues and bringing together the right people as faculty, practioners or educators. The Educate team's beliefs and assumptions are reflected in Figure 3.7.

Educate's goal was to identify the key skills, knowledge and experience needed to meet and exceed customer's expectations in the execution of their business process activities. The second objective was to develop an understanding of the relative value of each employee and their direct contribution to the corporation's revenue, profit and other financial goals. The team's mission was not to assess individual performance, but rather to find an effective way to measure the performance of the group quantitatively in order to identify where to make investments in additional skills, recognize potential mentors, and discover any gaps or shortfalls in the firm's skills, knowledge and

Figure 3.7 Educate: corporate capabilities and competencies

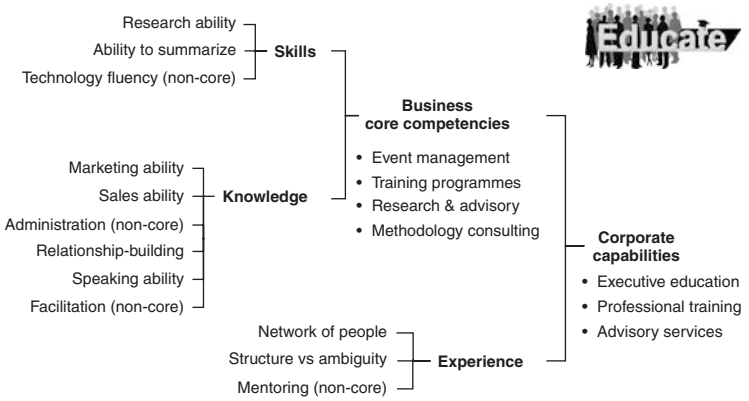
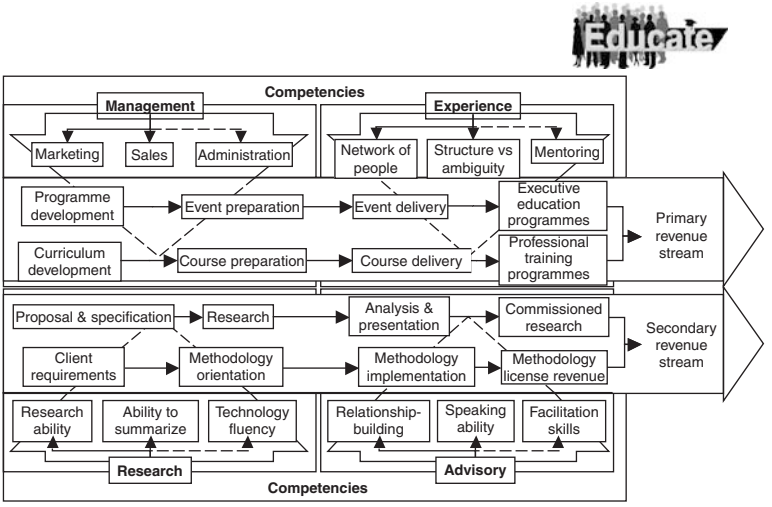


Figure 3.8 Educate: competencies diagram



experience base. The next step was to classify and clarify the competencies needed by each process, illustrated in Figure 3.8.

The team classified competencies by primary and secondary revenue streams marking them as primary competencies and secondary

Figure 3.9 Educate: process steps to competencies

Primary revenue streams	Process steps/activities	Key competencies	Primary and secondary skills
• Executive education programmes	• Programme development • Event preparation • Event delivery	• Management	• Marketing • Sales • Administration (non-core)
• Professional training programmes	• Curriculum development • Course preparation • Course delivery	• Experience	• Network of people • Structure vs ambiguity • Mentoring (non-core)
Secondary revenue streams			
• Commissioned research	• Proposal & specification • Research • Analysis & presentation	• Research	• Research ability • Ability to summarize • Technology fluency (non-core)
• Methodology licensing	• Client requirements • Methodology orientation • Methodology implementation	• Advisory	• Relationship-building • Speaking ability • Facilitation skills (non-core)

competencies. In addition, a non-core competency was identified as complementary but not critical to the operation. The criterion for a non-core competency was that it could be easily acquired by an external source with relatively short notice (for example, in the delivery of a corporate event an event management company could be contracted to perform the administrative functions such as registration, enrolment and participant orientation). The breakdown of capabilities, competencies and skills is shown in Figure 3.9.

Educate's competencies are based on a primary discipline to execute process steps and/or specific business process activities which are: management (the ability to manage the process of developing an executive education programme and deliver it), experience (the ability to adapt an educational programme to the specific needs of a client's organization), research (the ability to specify, direct, conduct and deliver highly focused research activities) and advisory (specializing in consulting skills to customize and implement a methodology with a client organization). The competencies were then broken down into primary and supplementary skills describing key characteristics that people need to have to be considered competent in the delivery of business process activities.

For the executive education and professional training revenue streams, marketing and sales are considered critical to engage clients

in a long-term relationship. Marketing is important because it has two roles: to attract new clients and to encourage repeat business with existing clients, which are considered more profitable because of the lower cost of sales. The ability to sell is highly desirable because the sale process really begins after the deal is closed and the programmes must be customized to a client's needs, and these are rarely defined by clients until they realize the extent of the educational requirements in their internal organizations. Administrative skills (non-core) were considered necessary but not critical because administrative functions can be outsourced or an employee can rapidly acquire the skill externally or via an internal mentoring process. Having and maintaining a network of people was considered a key skill for two reasons: there is a possible chain of customer relationships that can be exploited and a list of potential speakers or faculty members for event or course delivery needs to be managed. A highly prized skill was identified as being comfortable with structure versus ambiguity, in that most programmes were somewhat structured in their design but often required continual customization during the programme's delivery process.

Mentoring (non-core) had two main purposes: educating programme participants and training the trainers to perform a programme in-house. The inherent ability to do research in an unsupervised but highly disciplined manner was considered a key skill because many commissioned researched projects were simply one individual working with two or three persons from the client organization, who may or may not be intimately familiar with how to do proper research. Possessing an ability to summarize research and dissect materials in thought-provoking ways is considered more of an art than a science, and was thought to give the firm a unique market distinction. However, technology fluency (non-core) was considered good but not essential because the majority of the technical aspects were simply typing and presentation development, which was easily outsourced. The ability to establish and build relationships is an essential ingredient in implementing a new methodology within a client organization, simply because methodologies are rarely accepted as dictums: they must be negotiated and accepted by the receiving organization with a high degree of personal ownership and trust which must be built over time. The ability to get up and speak in front of executive learners and senior professionals was considered

a vital part of methodology implementation because so many people within the client organization have to be told so many things; an individual's speaking ability often made the difference between a satisfied client and an ecstatic customer. Finally, an individual's facilitation skills (non-core) were considered complementary but not critical because professional facilitators could be found via subcontractors.

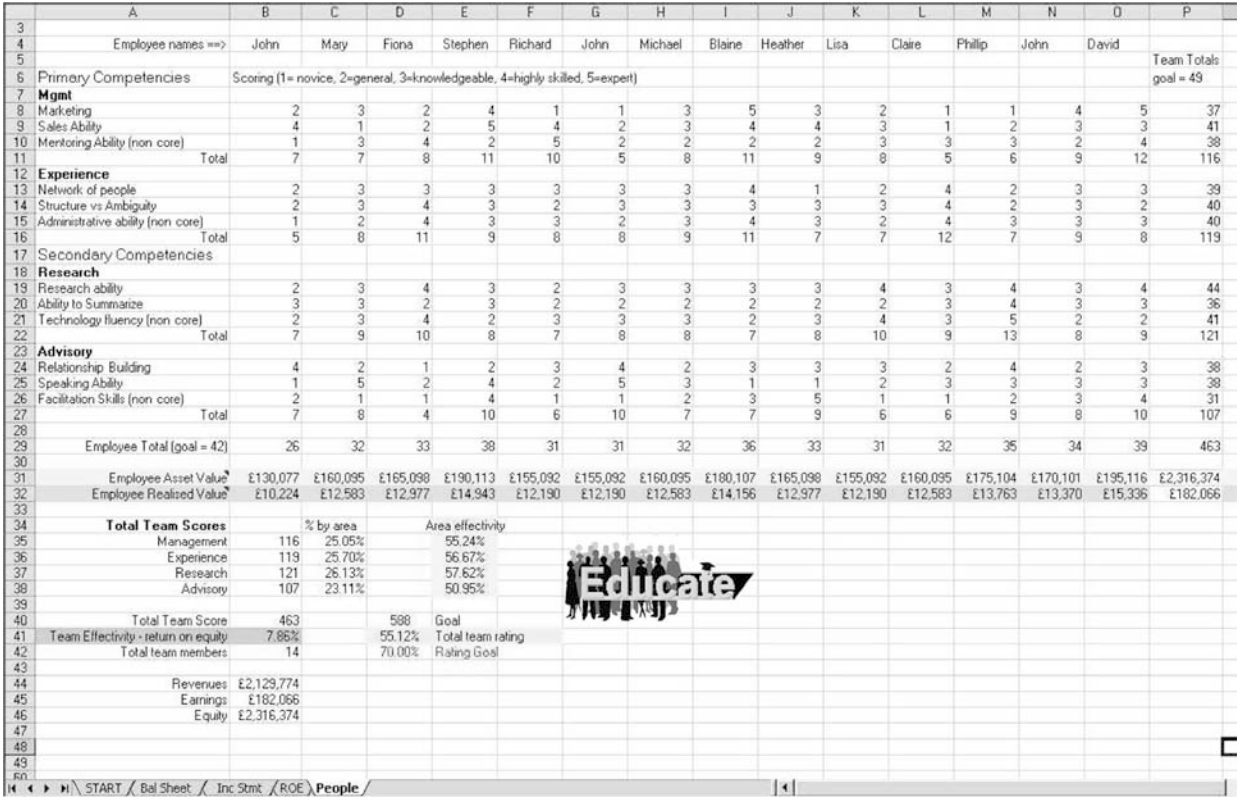
Donkin observes that corporations use continuing professional development (CDP) programmes to hone employee skills, often calibrated along the lines of points awarded by attending accredited courses or an approach which accumulates hours spent on studying a subject.[35] Although these approaches can be used as powerful recruitment tools to woo employees, they often fail to leverage the employees', newly acquired skills when individuals are not provided with opportunities to put recently acquired knowledge into practice. Cognizant of rating schemas that seem overly complex or act to retard the firm's enthusiasm, the Educate team devised a simple mechanism for determining the qualitative aspects of these skills; each employee would be asked to score their skills based on how confident they were in their own abilities: novice, generally knowledgeable, very knowledgeable, highly skilled or expert. The caveat for an individual's score was their ability to transmit a given skill to another member of the firm. Therefore, an expert would be expected to mentor others, while a novice could expect to be mentored. Each employee's scores were developed into a spreadsheet and reviewed by the team, as illustrated in Figure 3.10.

The intent of the spreadsheet is to combine the qualitative self-assessment instrument with a quantitative measure, thus allowing the firm to recognize the relative input of each employee to the total team output. Educate realized that to execute its value proposition to customers represented by the primary and secondary business processes the company must have two essential competencies: a set of corporate capabilities (consisting of management skills and industry experience) and highly skilled talent (capable of performing research and advisory activities).

Observations

The top half of the spreadsheet allows each individual to rate their own abilities in four key areas of competency: management, experience, research and advisory. The relative scores are then valued in

Figure 3.10 Educate: employee self-assessment



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
3																
4	Employee names ==>	John	Mary	Fiona	Stephen	Richard	John	Michael	Blaine	Heather	Lisa	Claire	Phillip	John	David	
5																Team Totals
6	Primary Competencies	Scoring (1= novice, 2=general, 3=knowledgeable, 4=highly skilled, 5=expert)														goal = 49
7	**Mgmt**															
8	Marketing	2	3	2	4	1	1	3	5	3	2	1	1	4	5	37
9	Sales Ability	4	1	2	5	4	2	3	4	4	3	1	2	3	3	41
10	Mentoring Ability (non core)	1	3	4	2	5	2	2	2	2	3	3	3	2	4	38
11	Total	7	7	8	11	10	5	8	11	9	8	5	6	9	12	116
12	**Experience**															
13	Network of people	2	3	3	3	3	3	3	4	1	2	4	2	3	3	39
14	Structure vs Ambiguity	2	3	4	3	2	3	3	3	3	3	4	2	3	2	40
15	Administrative ability (non core)	1	2	4	3	3	2	3	4	3	2	4	3	3	3	40
16	Total	5	8	11	9	8	8	9	11	7	7	12	7	9	8	119
17	Secondary Competencies															
18	**Research**															
19	Research ability	2	3	4	3	2	3	3	3	3	4	3	4	3	4	44
20	Ability to Summarize	3	3	2	3	2	2	2	2	2	2	3	4	3	3	36
21	Technology fluency (non core)	2	3	4	2	3	3	3	2	3	4	3	5	2	2	41
22	Total	7	9	10	8	7	8	8	7	8	10	9	13	8	9	121
23	**Advisory**															
24	Relationship Building	4	2	1	2	3	4	2	3	3	3	2	4	2	3	38
25	Speaking Ability	1	5	2	4	2	5	3	1	1	2	3	3	3	3	38
26	Facilitation Skills (non core)	2	1	1	4	1	1	2	3	5	1	1	2	3	4	31
27	Total	7	8	4	10	6	10	7	7	9	6	6	9	8	10	107
28																
29	Employee Total (goal = 42)	26	32	33	38	31	31	32	36	33	31	32	35	34	39	463
30																
31	Employee Asset Value	£130,077	£160,095	£165,098	£190,113	£155,092	£155,092	£160,095	£180,107	£165,098	£155,092	£160,095	£175,104	£170,101	£195,116	£2,316,374
32	Employee Realised Value	£10,224	£12,583	£12,977	£14,943	£12,190	£12,190	£12,583	£14,156	£12,977	£12,190	£12,583	£13,763	£13,370	£15,336	£182,066
33																
34	**Total Team Scores**		% by area		Area effectivity											
35	Management	116	25.05%		55.24%											
36	Experience	119	25.70%		56.67%											
37	Research	121	26.13%		57.62%											
38	Advisory	107	23.11%		50.95%											
39																
40	Total Team Score	463		588	Goal											
41	Team Effectivity - return on equity	7.86%		55.12%	Total team rating											
42	Total team members	14		70.00%	Rating Goal											
43																
44	Revenues	£2,129,774														
45	Earnings	£182,066														
46	Equity	£2,316,374														
47																
48																
49																
50																

Educate

START / Bal Sheet / Inc Stmt / ROE / **People** /

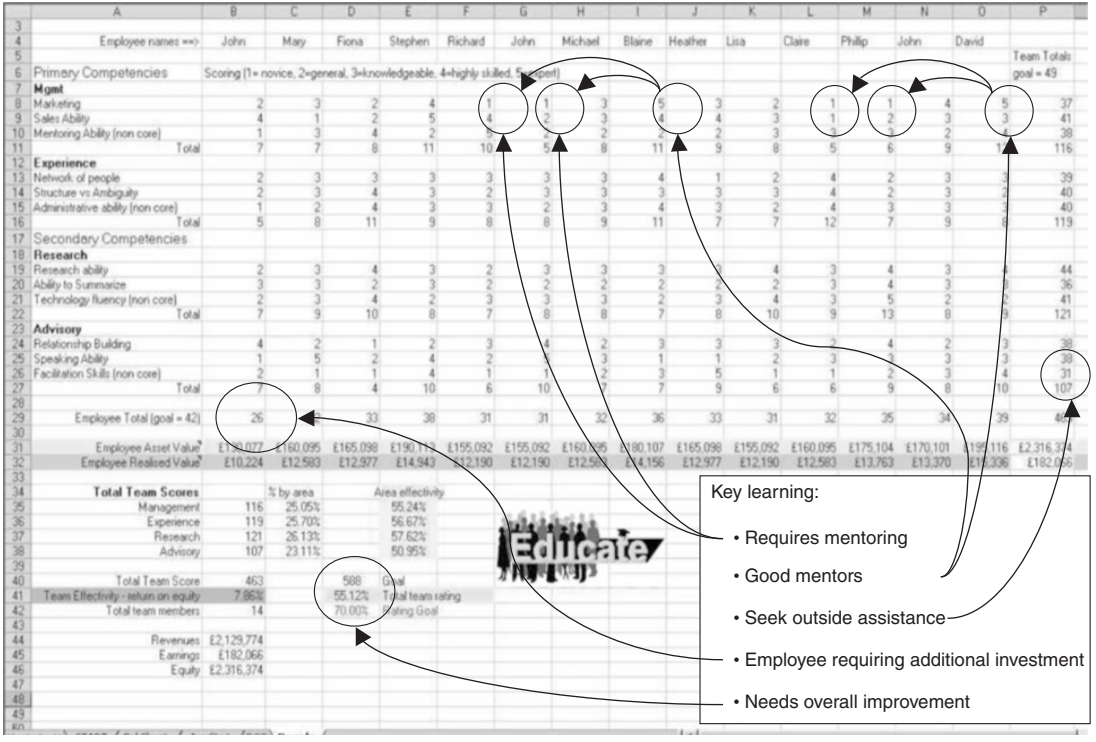
two ways to determine an individual's contribution to the firm's productive output represented by the employee asset value (EAV) and employee realized value (ERV). The fundamentals of these two calculations are discussed in detail in the next section. For Educate, an employee's asset value is the product of last year's total equity multiplied by the product of the individual's score divided by the total team score represented in the formula: EAV = (beginning of the year equity) × (individual score/total team score).

The employee's relatively ranked potential skills contribution is calculated by dividing the employee's relative score (found in employee total) with the total team score. In addition, Educate thought it would be more meaningful to show employees their relative contribution to the firm, which is represented in the ERV, calculated by taking the total earnings of the firm, multiplied by the employee's relatively ranked potential skills contribution represented in the formula: ERV = (annual earnings) × (individual score/total team score). The Educate team thought it was important to maintain a similarity in the formulae to reduce unnecessary confusion for employees and shareholders. The ERV indicates that the contribution of the employee's relatively ranked skills is proportional to the total ability of the firm to generate a profit; it is not an indication of an individual's performance.

Educate used the employee self-assessment to discover several key gaps in the assumptions made about their competency – as seen in Figure 3.11:

- The firm needed a competency target or corporate benchmark for employees to see their skills relative to the business process needs, not as a means to rank people within the firm.
- A benchmark was set by the team at 70 per cent of the total potential output of the organization as a minimum level at which the underlying business processes would maintain a positive but less than acceptable return on investment. The company average for an individual was set at 42 out of a possible 60 (60 would be if an individual were expert in every skill – which was deemed almost impossible). The average total company score for a specific skill set was set at 49, calculated by the total possible score per person multiplied by the total number of people divided by the number of competencies multiplied by 70 per cent, represented by the

Figure 3.11 Educate: employee self-assessment analysis



formula: skill average = (total possible score × no. of people)/(no. of competencies × 70%).

- An individual's score was considered as an honest representation of their abilities and the value of providing a truthful representation was echoed many times by the management team (whose scores were also made public to all employees).
- An individual with a personal score of 1 in any category requires additional knowledge or experience to achieve a higher level of proficiency and is thereby a candidate to be mentored.
- An individual whose score falls far below the company average requires an additional investment (mentoring, external training or technical skills-building).
- An individual with a score of 5 in any category is a good candidate to be a mentor.
- Mentors need an incentive – Educate elected to make part of their bonus compensation linked to mentoring one person per quarter with additional incentives for mentoring the maximum of eight people per year.
- A key skill set with a company total that falls significantly below the firm's average of 49 required management attention and investment to reach the acceptable level to ensure quality production.
- The overall total score reflected a distinct need for improvement to reach the target of 70 per cent.

One can clearly see that the firm needs to invest in upgrading the skills required for advisory that had the low score of 107 compared to a target of 142, representing a 22 per cent deficit. The team also realized that employees with a total score less than 33 required additional investments to make them more easily interchangeable across the firm's activities. This exercise also identified gaps in overall team skills, and this information was then applied to the firm's strategic plans to generate the specifications for new hires.

Implications

From the Educate example, one can see that the company needs to target specific skills when it hires additional people, carefully considering how they can fit into the current production plans, assessing their capabilities and mentoring them to improve the skills of others. Educate elected not to hire for specific job skills but to hire people

with more generally applicable skills because these can be applied across a greater spectrum of business activities. The most revealing lesson learned for the organizations was during the process of rethinking the way the firm organized and accomplished work. In hindsight, their initial approach, which was to conduct interviews with people in an effort to identify business process activities and the skills required to perform core tasks, was slow and required correlation. Later in the project, they adopted an approach where they simply brought everyone involved in a revenue stream together in a facilitated one-day workshop that reduced the overall time of the project by weeks. The one-day workshops were also viewed as an educational opportunity, elevating everyone in the revenue stream to the same level of knowledge and understanding of the entire process.

Actions to be taken

It is clear that within a corporation individuals and their knowledge of process, product and customer are the key to adding value while operating an interconnected set of synergistic business processes. The combined know-how or knowledge capital of the firm gives it the ability to make dynamic adjustments to the product mix and production process or to the relationships with suppliers, partners and distributors. In order to achieve this process dynamism, individuals within the firm must develop a more proactive and almost entrepreneurial approach in their execution and monitoring of the business processes. Information technology, which is often seen as an enhancer of productivity, is indeed a two-edged sword. It generates previously unheard-of levels of information to augment the process of business whilst, at the same time, it creates voluminous amounts of information which clutter an individual's ability to place issues into a greater context in which knowledge is the product.

If indeed one subscribes to the notion that information and knowledge are the baseline of the emerging global economy, then internal organizations must never be complacent with the current operating state of the firm, no matter how efficient it appears to be. In fact, internal organizations should continually challenge their cost structures in an attempt to assess every process which is outsourced and determine why they cannot offer the same service inside the corporate structure. If the goal of the firm is to economize on transaction costs continually, then the responsibility for continual process

improvement is set squarely within the levels of the organization that are close to the process, not with senior management. Senior management must adopt a policy of being a resource that operating groups can use to secure funding and other resources in their pursuit of process optimization. Organizations that continually strive to lower costs must remember that cost reduction is a tactic, not a strategic manoeuvre to produce more value for the customer. More importantly, when the cost reduction is simply the reduction of the workforce to adjust to changes in the demand cycle, firms may be losing key intangible assets such as product knowledge and other operational expertise as they jettison the previously espoused greatest asset, people. Zeynep Akşin makes an important observation on the influence of cyclical demand that must be considered when devising a value for human capital:

> Whenever one has steady demand, or monotonic growth or contraction for a certain service, human resource value is not impacted by the absolute value of demand. This implies that the valuation only requires an understanding of cost, productivity and turnover behavior … Firms that operate in environments with business cycles need a good qualitative understanding of the demand fluctuations in order to value their human resources.[36]

In Zeynep Akşin's view, a key role for whatever qualitative mechanism is developed by the firm is that it must act to put cyclical factors and other extraordinary circumstances into a proper context to accurately interpret quantitative numerical representations of the firm. For example, in the weeks following the events of September 11, companies such as Marriot, Harrah's Entertainment, MGM Mirage and other travel industry firms watched their stock prices plummet as industry analysts predicted massive reductions in travel. Was the value of their human capital suddenly less valuable? No. Simply, the market reacted to terrorism, causing the share price to move independently from the customer's perception of value. Therefore, to avoid this misstep, one could argue that individuals, as an asset, should have a value proposition reflecting their potential to contribute to both the long-term objectives and short-term goals of the firm, as we shall see in the next section.

Quantitative measures: the bean counter's friend

> What gets measured gets done.
> What gets measured and fed back gets done well.
> What gets rewarded gets repeated.
>
> John E. Jones[37]

The axiom provided by Jones articulates the cause and effect of any measurement system introduced into the corporate environment. As simplistic as it may seem, the human endeavours of the company must have measurements that are meaningful to each individual whilst providing necessary feedback in an attempt to update strategic initiatives and invoke tactical actions. In Daniel's viewpoint, management teams make an important misstep when the act of measurement becomes the goal itself:

> A great many people in business think that measuring a problem is tantamount to solving it. But as important as measurement is, measurement alone will not change behavior.[38]

Quantitatively measuring the physical output of people is easy. Parts produced, hours worked, revenue generated and accumulated costs each represent some aspect of effort expended on work activities. Bassi argues that although the metrics for measuring and managing human capital are already embedded at various levels in the firm's value chain, they focus almost exclusively on employees' assessments of how well an organization is doing in meeting the employees' requirements.[39] Developing a measurement that takes into account the inherent potential of an organization to produce something of value at some time in the future is made difficult simply due to the number of unknown variables. That said, quantitative measurement of the organization's physical products and potential to add value in new ways begins and ends with definitions. The first step is to establish a framework for defined elements to be measured which, in turn, sets the relevancy of each measurement to its desired outcome. Measuring knowledge assets requires both a prioritization of the assets and a relative ranking of the associated measurements. Business performance measurements provide information on the value generated during the use of knowledge assets. However, they do

not place in significance on the current market value or the potential to generate additional value. In this light, we can see that measurements must also be prioritized to match the firm's strategic intentions as well as its current operational targets.[40] For example, the aggregate productive power of the organization and the long-term potential of its employees to innovate and/or adapt to changes in business conditions can be called the firm's 'corporate knowledge equity'. Corporate knowledge equity is defined here as the value of human capital assets less the inefficiencies generated by the organizational operating liabilities like many aspects of business, corporate competence, has a predetermined life cycle. A competency must be developed, managed, periodically assessed, reinvested and retired when a new competency drastically reduces its value. Measuring the firm's competence requires measures which record not only the degree of competence, but also the maturity of competence in the life cycle. The significance and usefulness of each measurement must be periodically reviewed to determine its continued relevance.

Corporations can take missteps when introducing measurements, as realized during the roll-out of electronic swipe-card time-keeping technology at British Airways. BA's actions were predicated on a desire to migrate away from antiquated paper and pen-based systems towards more sophisticated time management technology. However, the management of employee perception was not effective, resulting in a near total shutdown of the airlines over a busy summer weekend. The BA example provides us with a key factor that many management teams fail to consider when implementing measurement programmes and technologies geared for detailed time management: people's expectations need to be managed proactively and the benefits to the corporation must be explicitly known to all stakeholders. According to Cunningham, one means of managing employee expectations proactively is to establish an enterprise resource planning (ERP) portal that continuously broadcasts vital information on corporate programmes and changing management initiatives.[41]

In the case of the aforementioned Educate, their approach was to establish first some level of qualitative representation of human capital that would be used to supplement or augment the quantitative measurement being put into place. Educate's goal was to establish a value for human capital, which would be reflected on the balance sheet to demonstrate that the firm's key asset to generate value was

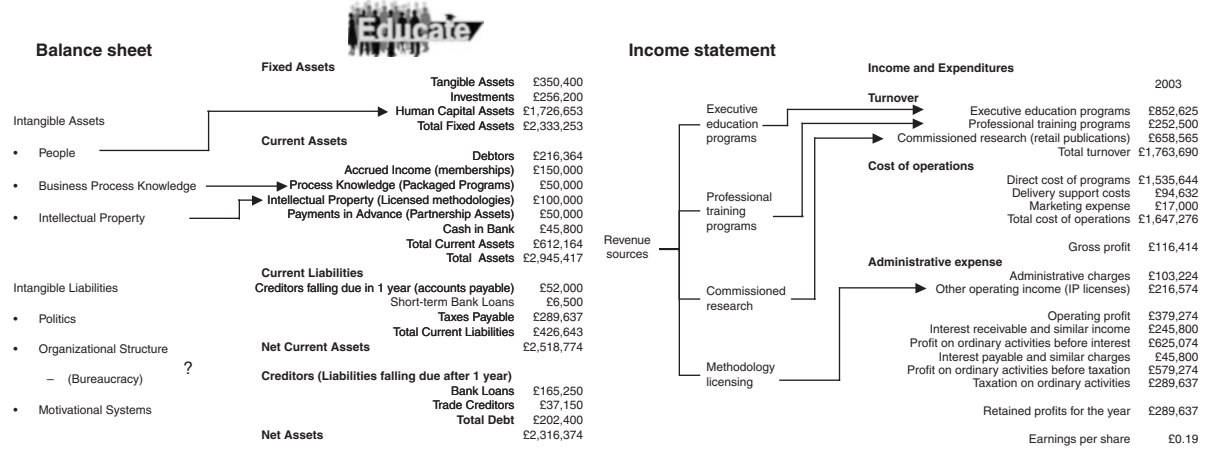
employee know-how. The representation of value would not simply be a reflection of Ricardian hours worked, but an indication of the potential of the organization to go beyond the current level of business activity. As depicted in Figure 3.12, human capital was considered on par with other fixed assets even though one could argue that in a services firm it is indeed more valuable than the building in which people work or the furniture on which they sit.

Educate's second goal was to establish a value for other intangible assets such as process knowledge represented by their packaged approach to educational programme development, intellectual property embodied in the methodologies that are licensed to customers and partnership assets which reflect bidirectional revenue and cost-sharing agreements under collaborative partnerships. In order to address the quantitative aspect of this challenge, the team at Educate developed a three-step approach: develop an understanding of income and expense that every employee could easily comprehend; establish a mechanism for return on investment which could be used by everyone in recognizing relative progress towards goals and objectives; and launch a process of educating the management team, employees and shareholders on how to interpret the changes in financial reporting.

Step one – an understanding of income and expense

Developing and implementing a way to value the endeavours of people engaged in daily work activities requires the establishment of two fundamental principles: the defined contribution with associated costs clearly understood and a valuation that is relative to a preexisting measurement. Each of these principles must be simple and easily understandable to everyone in the corporation. Misunderstanding and a lack of knowledge of the relevancy to existing measures often lead to distrust between management and employees, resulting in the eventual abandonment of the new measure. Companies often make a misstep when they use definitions of revenue and cost that resemble an exercise in accounting theory or make descriptions of new measures based on management consulting jargon. Definitions must therefore be simple to be effective. In Educate's case, as indicated in Figure 3.12, revenue comes from three sources: executive education, professional training programmes and commissioned research. Two emerging revenue sources, the licensing of intellectual property

Figure 3.12 Educate: balance sheet and income statement

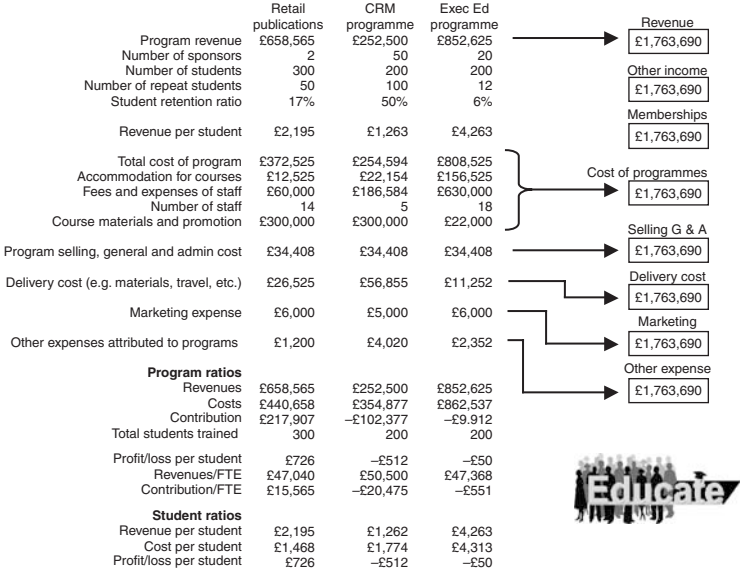


(developed methodologies) and membership subscriptions are reflected under administration because of their newness as potential leverageable revenue sources. However, they will move into turnover as they mature. Income or gross profit is a product of subtracting direct cost from business process activities and an administration charge.

Step two – establishing a return on investment

The Educate team agreed that using Dupont's classic return on investment (ROI) calculator, depicted in Figures 3.13 and 3.14, would best serve their purpose because it would be easily recognizable to employees and new hires, especially ones fresh out of MBA programmes. The use of Dupont's ROI model was selected over other performance mechanism such as net present value and internal rate of return simply because people believed it was easier to understand and individuals could see how their actions would directly influence the bottom line. The revenue analysis developed for Educate first identifies the primary and secondary revenue sources – retail publications

Figure 3.13 Educate: revenue analysis

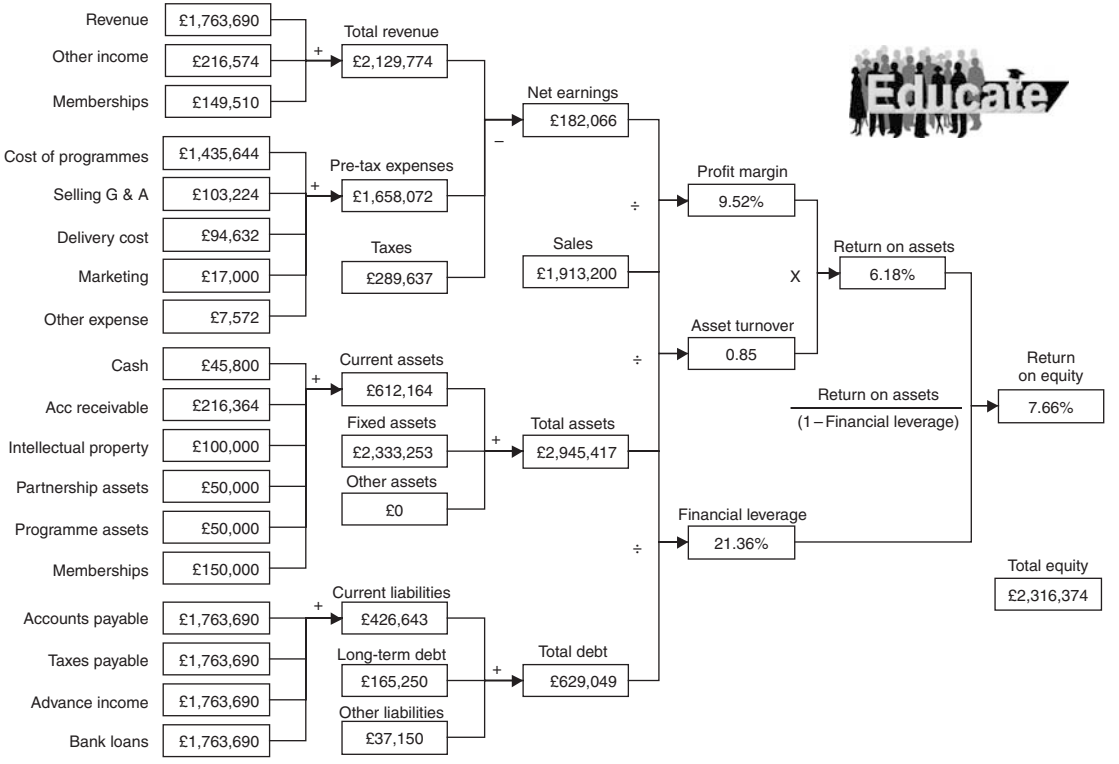


(commissioned research reports), CRM programmes (professional training), executive education, other income (licensed methodologies) and memberships – and then breaks down the various components of revenue into key ratios used to understand various aspects of the operations.

The second half of the revenue analysis is the calculation for return on equity that is the further extension of the Dupont ROI model. Return on investment is calculated by dividing the operating earnings of the revenue streams by the average invested capital (tangible and intangible) used in the execution of their business processes. The team surmised that the Dupont model provided the organization with information that was valuable in two ways. First, it indicated a return on sales enlightening people on earnings generated from sales and, second, it reflected capital which could be attributed to the amount of sales generated by invested capital. Cognizant of ROI's shortcomings such as the tendency to motivate short-term decision-making and the difficulty of matching invested capital to sales and operating earnings, the tool was deemed workable under the right educational process to properly indicate a perspective which would increase the performance of all who used it. Educate's adaptation of the Dupont ROI model depicted in Figure 3.14 illustrates the components of value which were considered vital for people to grasp, such as return on assets and return on equity.

Another component of Educate's model is the use of EAV and ERV to relate the value of human capital back to the individual. In the previous section, we discussed the formula for EVA as the product of last year's total equity multiplied by the product of the individual's score divided by the total team score. The team made the decision to use the value of the firm's equity at the beginning of the year as a baseline in determining an employee's relative value. Since human capital represents a large percentage of the total equity, the team felt that the use of equity as the base reflected both the human assets and tangible assets of the organization. The other metric used was the ERV, which was calculated by taking the total earnings of the firm, multiplied by the employee's relatively ranked potential skills contribution. The team believed that using annual earnings as the base reflected the performance of the people using the firm's assets and other resources to generate shareholder value.

Figure 3.14 Educate: return on equity



During the second phase of implementation, the team is considering introducing several new tools to the organization such as Fitz-enz's measurements:

> Return on human capital invested. Take revenue and subtract operating expense less the cost of pay and benefits. This 'adjusted profit' figure divided by the cost of pay and benefits shows the rate of return on people.[42]
>
> Human value added. Do the same calculation as return on human capital invested, but divide that adjusted profit figure by the number of full-time equivalent employees and contact workers. This shows the leverage that people have on profitability expressed as adjusted profit dollars per person.[43]

Step three – a process of education

The third and perhaps the most critical step in Educate's implementation of quantitative measures was to educate employees on how to use these tools to enhance the daily operations of the business. In effect, what Educate's team achieved was to transfer the financial management of the firm from the execute team to the front-line managers while simultaneously making the monitoring of performance a proactive process replacing the traditional reactive quarterly event. Education occurred by engaging employees in workshops (the same ones used to develop the business process maps discussed in the previous section) to get the fundamental knowledge. Next, using senior management as a resource instead of a control point, the management team was engaged in actively mentoring each employee for one hour each week for six weeks. Finally, the implementation team created an environment where employees could use the tool as a group to manage their revenue streams and practice, and ultimately self-evaluate the use of the tool. Overall, the management team, the implementation team and the employees believed this was an important first step but was by no means their last. The organization is eager to move beyond this elementary foray into performance measurement anticipating using mechanisms such as economic value added, Kaplan and Norton's balanced scorecard and other tools to refine the performance of the operations.

Quantitative measures in some cases are restricted by people in the organization not because they measure individual performance, but

because they provide information that can be used to spot failure. One thing is clear: to senior managers today, the ability to react to changes on the competitive landscape requires a higher degree of human capital agility. Organizational agility is made valuable by the speed at which the firm can respond to newly forming competitive conditions. Measuring the firm's agility in quantitative terms requires metrics designed to be used within a business culture that can use the information in two ways: first, to assess the rate at which the firm can respond and, second, to provide detailed information when things go wrong. In Thakor's viewpoint, corporate speed and agility require a corporate culture that has a greater tolerance for mutations and can reassess the relative economic cost, thus resetting opportunities.[44] The second aspect is to understand and, more importantly, to distinguish between individual error and errors that occur as a direct result of an individual's or group of individuals' lack of ability or errors made in the interest of a speedier decision-making process. Speed and agility require autonomy to be effective in the management of business units. Here again, Thakor argues that an organization's culture must react to failure as an opportunity to learn, understanding risks and using quantitative data as a tool for individuals to control and manage under varying degrees of autonomy. The key point is that when a failure occurs the organization should use quantitative data to seek out the flaw in the business process, and learn and rethink the parameters of the process, not search for an individual guilty of making a mistake.

Useful quantitative measurements must also reinforce the application of qualitative metrics to provide a feedback loop which continuously assesses the attitude of the organization relative to how employees feel about work activities. Bassi suggests that in addition to tracking key performance indicators such as customer satisfaction, customer retention, sales per employee and unit labour costs, another set of measurements must also track information such as:

- employee's satisfaction with the quality of their learning/development opportunities
- employee's satisfaction with the management skills/abilities of their immediate supervisor
- employee's satisfaction with the extent to which they are treated fairly, feel appreciated and acknowledged for their work

- employee's sense that the work they do makes a difference
- retention rate of key employees.[45]

In Fitz-enz's view, measurements themselves require some degree of measurement to ascertain their implementation effectivity:

> While several macro measures can be monitored which reflect the success of the overall HR function – such as absenteeism, turnover, and job satisfaction – it is often more useful to measure the success of new programs or initiatives designed to improve these measures.[46]

Fitz-enz's suggestion of monitoring the effective implementation of new measurements should not be taken lightly, because many corporate improvement programmes establish measurements and subsequent data collection activities that over time prove to be valueless exercises. Measurements are not determinants of organizational performance; they merely provide an analytic foundation for the human capital inputs into more sophisticated performance systems such as the balanced scorecard. Quantitative performance measurements must provide insight on how well human capital is being managed throughout each business process, while assessing the effectiveness of management and employee interventions.

Another approach to measuring human capital is proposed by Mieczysław Dobija, in which capital is the value of economic means capitalized in physical and human resources. In Dobija's view, the rate of capitalization is determined through natural and social conditions of the environment capitalizing costs of living, costs of professional education and the value of experience measured. He created an adapted learning curve outlined in the following formula: $H = (K + E)(1 + Q(t))$, where H equals human capital embodied in an individual, K = the capitalized cost of living, E = the capitalized cost of education, $Q(t)$ = learning curve, t = years of employment.[47] Dobija contends that the rate of capitalization is determined through natural and social conditions of the environment which are important to consider in the corporate organizational context because within the corporation, the social constructs or corporate culture are widely influenced by top management. The link between work and working environment can be seen in the establishment of company towns throughout the United States during the latter part of the

nineteenth century and the early twentieth century. Today, one can argue that an individual's relationship with a company is the primary determinant in their lifestyle; although the corporation may no longer own the town it does to a great extent control a large quantity of one's lifestyle. Corporations leverage the rate of capitalization by improving the working conditions of employees and other factors, which in turn improve the quality of life, thereby, as an indirect result of these actions, increasing the quality of productive output. During the 1990s this cause-and-effect relationship between environment and output was demonstrated by technology companies and progressive firms when they provided employees with flexitime, in-house coffee shops, recreational facilities and other mechanisms designed to relieve stress and improve morale. The justification for many of these expenditures was that an investment in human capital assets increased product quality through happy employees.

A more rigorous methodological approach is Sveiby's Intangible Assets Monitor (IAM) for measuring intangible assets complete with a presentation format to display a number of relevant indicators for measuring intangible assets simply.[48] The company's strategy and approach determine what indicators are chosen. The IAM is particularly relevant for companies with large intangible assets such as consulting organizations and corporations with large knowledge worker populations. The most important aspect of the IAM is its ability to establish measures which correlate to growth, renewal, efficiency and stability/risk. Perhaps the most compelling facet of IAM is that it introduces its users to the concept that intangible assets are as real as physical assets and must be measured, counted and managed with equal rigour. Although similar to Kaplan and Norton's balanced scorecard in theory, Sveiby's IAM specifically addresses the value of intangible assets, making a compelling argument that people are the primary asset in the corporation to create value and generate profits.

Another variation for measuring the composite value of a corporation where human capital is viewed as an integral asset in the process of value generation can be found in the ValueReporting Framework, which is PricewaterhouseCoopers' (PWC) approach for measuring and managing corporate performance and structuring communications about that performance.[49] Although the PWC methodology is far more extensive than our discussion on simply valuing human capital, it makes an important point advocating the identification of

performance measures that demonstrate clearly value creation for investors.[50] The ValueReporting Framework is comprised of four categories of corporate reporting:[51]

- market overview: a clear explanation from management's perspective of industry dynamics and market positioning
- value strategy: the depth and clarity of strategy
- managing for value: how companies manage their financial resources from an economic point of view
- value platform: critical inputs for creating future value by investing in the activities and relationships that underpin value creation – such as customers, brands, innovation, people, supply chain and corporate reputation.

The depth of the ValueReporting Framework is extensive, allowing an organization to establish metrics which correlate to strategy, customers and markets, people and reputation, risk management, financial position and financial performance. PWC's approach echoes the rising sentiment that the traditional corporate reporting model no longer meets a corporation's need to report on its performance to investors.

In Weatherly's view, organizations establish strategic and transactional metrics to track trends and or forecast business initiatives which are reflected in the Saratoga Institute compilation of standard metrics, illustrated in Table 3.1.[52] On close examination of the Saratoga metrics, the Educate team adapted these formulae into their calculations of EAV and ERV. In addition, Educate realized that several key ratios had to be developed for people to comprehend rises and falls in profitability as it occurs until waiting for the end-of-year accounting tally. Perhaps the most informative ratio was the student/ attendee retention ratio simply because returning event participants required a substantially reduced sales and marketing effort, thereby decreasing the cost of sales and boosting profitability. Understanding the student/ attendee retention ratio is vital because many of the programmes are priced so they are affordable to younger professionals and/or professionals not yet employed. Subsequently, the margin on these programmes is very low and at times runs into a deficit. Actively managing the student/attendee retention ratio is the prime indicator of annual profitability or loss.

Table 3.1 Saratoga Institute: standard metrics

Organizational effectiveness	
Revenue Factor	Revenue/Total FTE*
Expense Factor	Operating Expense/Total FTE
Income Factor	(Revenue − Operating expense)/Total FTE
Human Capital Value Added	Revenue − (Operating Expense [Compensation Cost + Benefit Cost**])/Total FTE
Human Capital ROI	Revenue − (Operating Expense [Compensation Cost + Benefit Cost**])
Compensation	
Compensation Revenue Ratio	Compensation Cost/Revenue
Total Compensation Revenue Ratio	(Compensation Cost + Benefit Cost**)/Revenue
Compensation Expense Ratio	Compensation Cost/Operating Expense
Compensation Factor	Compensation Cost/Workforce Head Count
Training & development	
Employees Trained	Employees Trained/Total Head Count
Training Cost Factor	Total Training Cost/Employees Trained
Training Cost Percentage	Total Training Cost/Operating Expense
Training Investment Factor	Total Training Cost/Total Head Count
Training Staff Ratio	Total FTE/Training Staff FTE
Training Cost per Hour	Total Training Cost/Total Training Hours

* FTE: full-time equivalent, or 40 hours per workweek.
** Pay for time not worked must be subtracted from benefit cost since it is included in compensation cost.

Source: Saratoga Institute, 2003 SHRM National Conference.

Earlier approaches to developed quantitative measurements during the late 1960s, such as Brummet *et al.*'s cost models based on the acquisition cost, including replacement and training costs and opportunity costs of human assets,[53] and in the early 1970s with the introduction of the Lev and Schwartz model which was more

monetary-centric based on the likely future earnings of an employee until his retirement,[54] provide a solid foundation for understanding but fall short of the demands of today's corporate needs. In Lermusiaux's view these earlier models would be more effective if they were based on turnover rate and capitalizing salary expenditures:

> Therefore, to compute the value of human capital multiply the number of employees by their salaries; multiplied by the average length of tenure per employee; multiplied by the average increase in wages per year; all discounted back to year one. The resulting figure represents the human capital value of the firm. However, it is not the absolute value of human capital that is critical; but more its significance as an indicator of the importance that management should pay to it.[55]

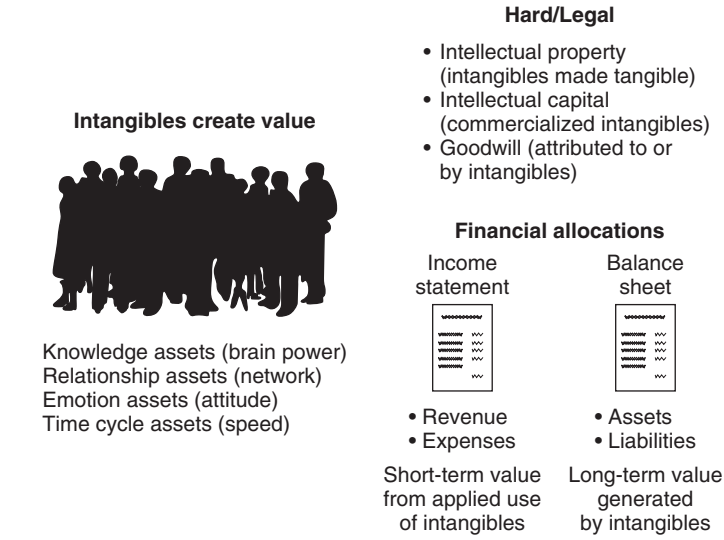
As Lermusiaux rightly points out all approaches to human capital valuation are indeed indicators, such as the balanced scorecard, Skandia's Navigator, the Intangible Assets Monitor, market value added and economic value added. They are simply a pallet of tools to be used ultimately to uncover the value of human capital and place some representation of value squarely on the balance sheet. Another lesser-known but equally valid approach is the Know-Net project's method to explicitly measure and evaluate the quality and business value of intangible assets and intellectual capital by integrating human assets with financial, structural and market assets.[56] Know-Net's approach is to make clear the distinction between the value of the indicators that are reflected in the stock (latent potential) of the firm's assets, and the flow (efficiency during operation) between assets.[57] Another commercial venture is PeopleMetrics, a comparative database system that provides tools to assess the organization in areas such as:

- *demographic information*: records who you have, who they are, where they are, what they are, what they've done, what they do, and points to what they can yet do
- *organization effectiveness*: shows how aspects of the organization effect human performance for good or ill
- *job analysis*: shows the match between the organization's view of job requirements and those of job holders

- *recruitment, selection, promotion placement*: provides fast, objective, and defensible information to help find the best person for any job
- *competencies analysis*: provides an objective, accurate picture of training needs by comparing the skills and knowledge needed to do jobs with those of the job holders
- *performance management*: draws information together to determine and track the performance of people in their jobs compared to identified standards/benchmarks
- *training and development preferences*: records the different ways that people best learn, and indicates how to improve the productivity of 'training'
- *training activities analysis*: provides information about the overall effectiveness of training activities and how they translate back to job performance.[58]

One of the more ambitious attempts at valuing human capital can be found at the International Intangible Management Institute where a collection of 30 aspiring standards address aspects of intangible valuation such as knowledge assets, relationship assets, emotional assets and cycle-time assets. Standfield's taxonomy illustrates fundamental differences between a manufacturing company and one that creates value through knowledge, relationships and time, providing a roadmap of how intangible value is generated, as depicted in Figure 3.15. Standfield argues that a comprehensive intangibles management framework acts to protect investors because it makes a company more transparent without divulging damaging information to potential competitors.[59] The underlying theme of Standfield's approach is an adherence to discipline in the formulation of an intangible's value. If the same methodological determination is used by all companies within a specific industry, the standard value of an intangible is easy to understand relative to each company and from company to company. An intangible asset such as human capital can be readily compared and contrasted against industry norms similar to the way investors use price–earning ratios and yield to evaluate like companies in the same industry. One possible drawback, although not directly related to Standfield's methodology, is that once standards are in place they may act to devalue intangible assets by commoditizing them.

Figure 3.15 The intangible value



Source: Adapted from International Intangible Management Standards Institute material.

Having taken all the aforementioned approaches to the quantitative and qualitative aspects of placing people on the balance sheet into account, it is now time to combine these two concepts into a meaningful representation of people's value to the organization. One thing is clear: each aspect of this problem is in itself complex. Qualitative factors discussed in the previous section act to quantify the value of measurements while the quantitative metrics act to reflect past performance. In the next section, we will explore how to bring these two factions together and elaborate on several concepts that may provide a framework for thinking on establishing the value of human capital.

The equation for valuation: notes to the financial statement

> The value of an idea lies in using it.
> Thomas Edison[60]

We have come close to the end of our journey through the maze of methodologies, approaches, techniques and academic discussions to

put some representation of human capital on the balance sheet. One of the most insightful comments on this subject comes from Ulf Johanson, of the Personnel Economics Institute, School of Business, Stockholm University, who maintains that concepts such as the balanced scorecard are for the most part championed by financial and accounting people while human resource people fill the ranks of those who support human resource and cost accounting.[61] Oddly, there is little work on this subject being originated by line managers in the field, who are the ones who might benefit the most from these endeavours. However, almost universally practioners and academics agree that something must be developed to address the fundamental change that has occurred to business in regard to what constitutes viable assets. Stewart notes that the need for new mechanisms of value representation extends beyond the confines of the organization to the investors and other external sources:

> It is incontrovertibly true that present financial and management accounting does not give investors, directors, the public, or management the information they need to make informed decisions.[62]

We must applaud the efforts of the countless corporations trying to address the valuation of human capital by increasingly using value-based metrics such as the balanced scorecard, EVA and shareholder value analysis (SVA) to appraise the execution of their organizational performance. For example, according to Molyneux, traditional banking institutions are transforming themselves into financial services firms that are a complex network of distinct businesses sharing centralized financial, informational, human and organizational structures which require measurement mechanisms that reflect the modularity of their operations.[63] Using mechanisms such as SVA, a financial services firm can be compared with individual speciality corporations that offer like services. This comparison is most useful when assessing the relative performance of individual operating groups within the financial services firm rather that a comparison of the entire firm against a speciality organization. Jalbert and Landry make an important point on how a corporation should approach the application of a measurement on the human capital

equation:

> Balanced scorecards and EVA are more appropriate for smaller firms and situations where information beyond that provided by a market measure of performance is needed. The difference between balanced scorecards and EVA is that balanced scorecards should be considered when a functional focus is desired, and EVA should be considered when a project focus is desired. Combinations of these systems can be used in the same firm, but the benefit of multiple systems must be carefully balanced with the added cost, increased complexity, and potential conflict and suboptimization of implementing multiple measures.[64]

Much of the research on using value-based metrics centres on senior management using these measures to assess the value created for shareholders, employing the data as a means to validate production versus providing people within the business's processes with a valuable tool for assessing their own relative contribution. There is a shortage of empirical evidence to state definitively that value-based metrics are widely used by corporations. However, a growing number of corporations have adopted and subsequently adapted variations of these measures to address specific areas of performance such as AT&T's three-tiered approach using EVA to measure financial results, customer value added to record service levels and people value added to evaluate leadership behaviour, diversity and values.[65] Increasingly, mechanisms such as the balanced scorecard are growing in popularity; however, there are only isolated cases of any value-based metric being used as a means of providing workers with a more holistic suite of tools in the day-to-day execution of business activities. It is because of this gap in understanding these mechanisms by people engaged in the business processes themselves that we will now look at these tools and provide an interpretation of how they can be applied to the problem of human capital management.

Francis and Minchington raise several problems when applying these metrics within a specific business unit, the most significant of which is that these measures are criticized as being too complicated.[66] In their view, to implement value-based metrics successfully requires the generation of awareness, a perceived fair apportionment of the cost of capital and the capital asset base, and other typical factors that

can be associated with resistance to change by any organization. The key point is that these measures must be embraced as tools to be used, not mechanisms to monitor employee productivity. This enlightenment can only come from a determined investment in education to demonstrate to workers how these mechanisms can be used to enhance their day-to-day activities and enable them to assess the long-term value of their actions.

Perhaps another way of addressing the valuation of human capital is to consider a modified version of Stern Stewart & Co.'s EVA.[67] EVA assesses human capital and the associated costs of employment equally with other forms of capital. This view takes a more comprehensive approach to valuing the firm's ability to generate long-term shareholder wealth by calculating the value of the company at present and in the future, using a two-step approach.[68] First, value is calculated based on a planned period; next, the value is calculated based on a perpetual period taking into account growth rates and other key variables, as outlined in Figure 3.16.

Economic value-added analysis measures the value creation to shareholders by a company or business unit. Put simply, EVA measures an organization's ability to earn more than its total cost of capital, thereby increasing value to shareholders. Using EVA a management team must assess trade-offs between reinvesting in existing business activities, making new investments and returning cash to stockholders. Zingherm and Schuster remind us that in order to implement concepts such as EVA and use them effectively, people require significant education before these measurement systems can be used as a determining factor in their compensation.[69] Competencies can be categorized as belonging to one of four groups: organizational, strategic, technical and behavioural. Core competencies most often fall into the category of operational, because they are combinations of knowledge and skill frequently organized as a process or specific method generating distinct value to the firm or industry. Strategic competencies are simply the ability to act on strategies by decomposing abstract

Figure 3.16 Stern Stewart & Co.: economic value added formula

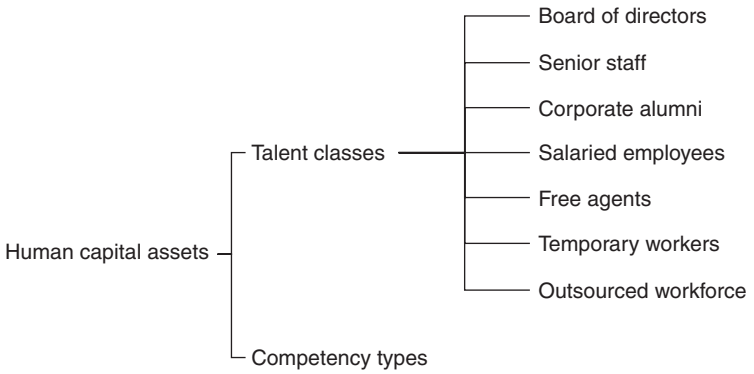
$$\text{EVA} = \begin{array}{c}\text{Operating profit}\\ \text{before tax}\end{array} - \text{Taxes} - \left(\begin{array}{c}\text{Total capital}\\ \text{employed}\end{array} \times \text{cost of capital} \right)$$

strategic initiatives into actionable tactical actions. Often, a firm with strategic competency can set in motion initiatives that span multiple business processes such as IT infrastructure initiatives. According to Zingherm and Schuster, technical competence represents the breakdown and depth in functional expertise.[70]

Another approach to classifying technical competencies is to view them as highly specialized skills that provide a service that can only be performed by specific individuals, and/or a combination of specialized skills, which can be organized into a market differentiation for the firm. Perhaps the most difficult area of competencies to address is the behavioural one, which consists of a wide variety of characteristics and traits which are not easily assessed or valued. Behavioural competencies are more easily measured through qualitative means, rather than numerical approaches which seek to quantify actions relative to the actions of others. Skills which are often called 'people skills' such as leadership, customer service, problem resolution, teamwork, innovation, mentoring and communications reflect individual behavioural traits, making them more difficult to measure objectively. However, people are capable of rating their behaviour relative to others when the metric appears to be non-threatening, such as the Myers–Briggs Type Indicator.

An approach popular with large project management-based consulting companies and government/military circles is earned value which is a management technique that relates resource planning to schedules and to technical cost and schedule requirements. Human activities are categorized as planned, budgeted and scheduled in time-phased 'planned value' increments representing a cost and schedule measurement baseline with two key objectives: to encourage managers to use effective internal cost and schedule management control; and to facilitate the timely use of data produced by those systems for determining product-oriented status.[71] Although our research found no corporation actively engaged in using earned value as a mechanism to provide information on a balance sheet, one can easily see the benefits of this disciplined approach to planning and the use of metrics to show real variances from planned activities in order to generate necessary corrective actions. Earned value may have merit as a mechanism for data collection to support human capital valuation in large corporations or organizations engaged with numerous outsourcing partners where the management of

Figure 3.17 Human capital asset classes



value-added work and intellectual capital requires a more rigorous methodology.

One additional thing to consider in the valuation of human capital is the concept of classes of human capital similar to classes of stock (for example, preferred, common, voting, non-voting). If human capital assets have an intrinsic value, perhaps they also have secondary value. The concept of asset classes is interesting because if the corporation does establish a common unit of value that is applied to human capital, the underlying process of creating value must be the same across all activities of the firm and by all people. That is not to say that some types of human capital are inherently more valuable, but rather that the activities in which people are engaged may have a greater capacity to generate long-term value. Figure 3.17 illustrates one aspect of human capital assets: that of talent classes in which the business activities of employees may be considered more valuable than work performed by temporary workers or contracted labour.

Classes of human capital such as a delineation of talent add to complicate the process of establishing a value which can be easily understood on the balance sheet. In theory, a classification schema of human capital is not without merit, simply because it supplements the understanding of the quality of the workforce employed by the firm to carry out its objectives. The US Government Accounting Office notes that various types of data have the inherent value of

describing in detail the human activities relative to planned activities in large government contracts

> The types of data that can inform workforce planning efforts include but are not limited to: size and shape of the workforce, skills inventory, attrition rate, projected retirement rates and eligibility, deployment of temporary employee/contract workers, dispersion of performance appraisal ratings, average period to fill vacancies, data on the use of incentives, employee feedback surveys, feedback from exit interviews, grievances, or acceptance rates of job candidates.[72]

The ability to quantify and identify the actions which generate more value than other activities throughout the corporation makes the discussion on human capital asset classes interesting. This is due to the fact that the representation of people on the balance sheet may, on the one hand, provide clarity on the quality of employees, but, on the other hand, it could become a self-destructive restatement of social class between workers.

Educate chose not to venture into multiple definitions of asset classes and focused on supplementing the balance sheet with information that would provide a numerical value to the intangibles of human capital and intellectual property. In their view, establishing a value is the first step – not the result – simply because the newness of the measurement systems would lend itself to redefinition and revaluation during the course of using the numbers in a day-to-day environment. The initial valuation of human capital assets, process knowledge, intellectual property and partnership assets provides a baseline with which these values can be compared for accuracy, relative motion towards objectives and determining relevance in daily operations.

If we refer back to Figure 3.12, we can see that Educate set the initial value for human capital assets at a value equal to the equity of the firm at the close of the previous year less the value of the tangible assets. The logic used was simple: as a starting point, the value of people was at least equal to the value of the firm before the expenditure of effort during the current year. The implementation team determined that it would be a less valuable effort to determine retroactively the value of human capital; while placing an initial value of

zero would have a psychological disadvantage the approach was considered a reasonable first attempt at a valuation. Subsequent valuations would be based on the baseline added to or subtracted from the annual retained profits. Keeping in mind that the primary users of these measurements are the people within the organization who must act to improve them over time, the implementation team's first thought is to strive always for the least complicated solution.

It is important to note that as of the time of writing, Educate's new balance sheet and income statement is strictly for internal use until they understand the implications of the dynamic interplay between all the variables used to represent intangible assets. The second phase of their project will address how this information will be presented to external entities such as shareholders and analysts. The implementation team set the expectations of the firm that the first implementation of these metrics was merely to establish a benchmark, develop an in-depth understanding of how the firm works with the skills it employs, identify gaps in core and non-core competencies and above all else learn from the experience, passing lessons learned along the journey to everyone in the company. For each new item on the balance sheet and income statement, Educate supplemented a detailed explanation of how the sum was calculated, the assumption made in the formulae and a suggestion of how the numbers could be used by people in the organization. The implementation team used this opportunity to encourage employees to comment, recommend corrective actions, and suggest any additional measurements that would assist in achieving the goal of valuing human capital. Next, the implementation team reset employee expectations that this exercise was not an attempt to monitor productivity but to report with greater accuracy the hidden value of people employed.

The crucial learning from this process is that part of what makes a company unique in its value proposition to customers is the fundamental understanding of how the resources of the firm interact harmoniously to meet customer expectations. In the execution of that mission business conditions change, customer expectations alter and the organization reacts, sometimes, by breaking the rules in order to satisfy the customer. Measurements act to codify the actions of people and their activities in a way that limits their ability to react to changing business conditions. Numerical representations of their actions must always be viewed in the proper context, making

qualitative mechanisms critical for understanding how the organization is performing. Osterland identifies a significant learning in pointing out the value of the Brookings Institution's Understanding Intangible Assets project:

> [The Brookings Task Force] concluded that the value of an intangible asset comes from its interplay with other assets – both physical and intangible – and that attempting to value it on a stand-alone basis is pointless.[73]

Conclusion: The Agenda for Action

> Management changes behaviour by its actions and its inaction.[1]

The intent of this book was to expose the business professional to a variety of approaches with which to measure the endeavours of people within the organization who are directly and or indirectly participating in your firm's value proposition. You may have surmised that in this field of organizational studies there is no consensus on one single way to address this problem. Therefore, you, the professional, must assess which one of these approaches best fits your corporate offers, culture, customers and markets. Your approach may indeed be a combination of some of the approaches described in the previous chapters. In our view, a hybrid approach in which several concepts are blended together is by far the best method of approaching the problem of developing a value of the human activities of the corporation. If a recognized standard evolves over the coming years, the approach you choose will continue remain valid because it will provide your firm with a benchmark by which to measure the value of people relative to an industry measurement. The method you choose must honestly gauge the forces supporting and opposing the adoption of human capital measurement within your organization. Successful adoption usually depends on measurement that is easy to understand, seen as useful at all levels and more importantly linked to rewards.

This book aimed to offer a means to qualify value and to understand when, and how it changes as an organization matures as in the

J.A. DiVanna et al., *People — The New Asset on the Balance Sheet*

case of start-ups, or becomes mis-aligned as the firm's products and services evolve to meet customer demands. The text also raises the question that employee value needs both context and motivation. There must be a common language and coherent picture between employers and employees about the value and sustained development of skills. Skill development and organizational learning must create accountabilities that acknowledge success provide insight into failure. As noted by Ashkenas *et al.*: 'A commitment to learning also recognizes that regular small failures foster learning, whereas constant successes restrict ideas and cause complacency and risk aversion.'[2]

The measurement of human capital and its performance does not have to be complex to be effective. However, it must be consistent. For example, General Electric's philosophy states that in order to build great products and services, you must first build and develop great people. In an effort to proactively address the people aspect of their business, GE reviews the performance of people year round with managers rated annually on their adherence to four key principles of leadership which they call 'the four Es of GE leadership':

> Very high *energy* levels, the ability to *energize* others around common goals, the *edge* to make tough decisions, and the ability to consistently *execute* and deliver on their promises.[3]

Organizations are undergoing a fundamental transformation that hinges on their ability to continually realign their resources with changes that occur in the markets in which they compete and the customers they serve. As De Francesco has argued, the true value of human capital and its overall management is to make the firm agile enough to respond rapidly to changes in the business environment in a profitable manner.[4]

We think we are at a watershed moment in that evolution. Organizational realignment does not happen by accident, nor is it the product of organic growth. Corporate initiatives which instigate business change of this nature are a result of careful and determined leadership. Business change initiatives must simultaneously direct their attention to their objectives and examine the reinvigoration of leadership by addressing three key questions: to what degree does the organization's culture influence its receptivity to change? Is there a new set of prerequisites for today's leaders? Can the effectivity of

leadership be measured similarly to return on investment (ROL or return on leadership)?

Organizations today are in transition, as external factors such as globalization, outsourcing, job-exporting and other strategic actions reshape how an organization functions. Simultaneously, firms face internal changes as modern technology alters the way in which an organization goes about accomplishing daily activities and as homework and reductions in middle-level management act to reduce costs and conserve resources. At the heart of this change are people who must employ their knowledge to make the transition and leaders who must manage the process of change. Organizational transformation does not happen in a vacuum, nor does it occur simply by issuing an inter-office email. One can argue that the rate of transformation in any organization is directly proportional to the organizing structure of the resources within the organization and the culture in which these resources operate. In many cases, similar organizations experiencing similar changes often yield surprisingly different results simply because the organization's attitude viewed change as a positive step towards a future operating state. Senior management provides the organization with its structure while leaders provide the organization with their culture. Typically, the tenor of an organization's culture is a direct reflection of the leadership: for example, if leaders are entrepreneurial often the culture of the firm reflects risk-taking and experimentation and encourages learning through trial and error.

Organizational transformation therefore starts and stops with leadership. Some people are natural-born leaders. However, most leaders must be developed by cultivating a wide range of skills that enable them to balance many factors. Today's leaders are witnessing a fundamental change where leadership itself is being redefined, migrating from a command-and-control function found in the twentieth century to a process which establishes boundaries and expectations. Simply, leaders are learning that today's professionals, empowered workers and high-performance teams look to leaders not as control points but as resources to be used to address specific issues. Leaders now act as a catalyst for organizational transformation and require new skills to manage organizations that will be in a state of continual renewal.

If we measure organizations, can we also measure the effectivity of leadership? Organizational performance is a product of leadership.

Efficient organizations in the hands of poor leaders often lead to a reduction in quality, lower levels of customer service, higher costs and eventually a slow demise of the organization. Many organizations are now addressing this problem and developing new ways of quantitatively and qualitatively measuring the effectivity of leadership beyond simple return on investment.

We hope we have made the case that managing and measuring human capital, knowledge, intellectual property now deserves a ranking equal to or greater than the attention that IT and finance receive. In our viewpoint, technology plays an instrumental role in the coordination of complex geographically disperse tasks, providing tools to enhance the total knowledge equity of the firm by enabling a higher frequency of interaction and collaboration:

> The abandonment of the current accounting models does not seem like a plausible course of action in the near future. The costs associated to a radical change of the accounting system of reporting would be unaffordable. Therefore, it appears the most sensible approach to the enhancement of the usefulness of financial statements is to develop complementary statements within the framework of the current accounting system.[5]

We agree with researchers such as Johanson *et al*. that a firm undergoing the process of establishing mechanisms to measure human capital is a significantly valuable exercise as the organization learns a great deal about itself, which in many cases is an overwhelming justification for taking on such a venture.[6] When we began this book, we believed that a valuation for human capital was needed by corporations due to the changing nature of value generation by the assets in the firm. The need is still there. What we have realized is that the many competing theories of what constitutes the most comprehensive means to address the problem, coupled with the competition to become the world's standard valuation mechanism, act to confuse corporate attempts in this area simply because people do not want to place the wrong bet. Corporations should not be concerned with which methodological approach is better (more holistic or comprehensive), nor should they agonize over which method will be elevated to the status of standard. The value is in the experience gained in discovering which method best fits the needs of the organization.

Similar to the road to enlightenment of Hermann Hesse's *Siddhartha*, it is the journey to value human capital – not in the destination of final valuation – that provides the most value to the organization.[7] Shareholders, investors and analysts eagerly wait for new measures to provide them with deeper insight into which company will generate value faster and with a greater return on their investment. Meanwhile, organizations have a unique opportunity to learn more about themselves and the fundamentals of how they add value by experimenting with the various ways of valuing human capital.

Our intent in *People – The New Asset on the Balance Sheet* was to provide a general understanding of the issue of human capital valuation and to review a number of attempts by academics and corporations to understand better how to set a value for human capital. During our research, we synthesized a hybrid methodology that simplified for organizations such as Educate the profusion of competing methods into a framework, which is the first step in a long journey. It would be naive to think our methodology fits the needs of all companies in all industries; it merely offers another approach to a very complex issue that will probably be debated throughout the twenty-first century. Like Siddhartha, who finds peace when the ferryman teaches him to listen to the river, the best approach to valuing human capital may be simply listening to the organization and selecting a method that best fits its needs.

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Index