

JIBS Special Collections

International Entrepreneurship

The Pursuit of Opportunities
across National Borders

Edited by
A. Rebecca Reuber



JIBS Special Collections

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1

Research Themes About International Entrepreneurship: Tales from the *JIBS* Backlist and Onward Journeys

A. Rebecca Reuber

Introduction

The field-defining event for international entrepreneurship was the publication of a 1994 paper by Oviatt and McDougall in *Journal of International Business Studies (JIBS)* (Oviatt & McDougall, 1994; this volume). At that time, extant international business theory was focused on multinational enterprises. A widespread assumption was that companies become more internationalized as they became older, more established, and more knowledgeable (e.g. Anderson, 1993; Johanson & Vahlne, 1977). Oviatt and McDougall (1994) noticed that some firms were entering foreign markets soon after start-up, and set out to explain how they were able to do so. Their explanation is based on the premise that entrepreneurs can overcome the resource constraints of new firms. Autio (2005; this volume) provides a valuable comparison of their

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assumptions and logic with those of the process theory of internationalization that preceded them. Both papers are included in this volume to encourage people to read them to understand the theoretical underpinnings of the field.

Oviatt and McDougall's explanation of early internationalization recognizes a number of factors that reduce the resources and capabilities required for internationalization, thereby reducing the barriers for new firms to enter foreign markets. Specifically, they argue that partnerships based on relationships through social networks, and a concomitant ability to control unowned assets, can compensate for gaps in resources and capabilities. Further, private knowledge—of markets, foreign contacts, and technologies—can enable founders of young firms to set up governance mechanisms supporting sustained competitiveness in foreign markets without the advantages of scale. While the initial emphasis was on new firms, these ideas have been extended to take into account the resource constraints of small firms.

Over time, the scope of entrepreneurial internationalization as a research domain has shifted. A highly visible marker of this shift is Oviatt and McDougall's recasting of international entrepreneurship from firms that internationalize early in their life (Oviatt & McDougall, 1994) to “the discovery, enactment, evaluation, and exploitation of opportunities” across national borders (Oviatt & McDougall, 2005: 7). This opportunity-based perspective is reflected in recent *JIBS* commentaries of the domain (Reuber, Dimitratos, & Kuivalainen, 2017; Reuber, Knight, Liesch, & Zhou, 2018) and in the 2018 *JIBS* special issue on international entrepreneurship. The international entrepreneurship research that is discussed in this chapter and the papers included in this volume encompass both traditions.

There have been two interrelated challenges in assembling a specialized collection of *JIBS* articles on international entrepreneurship. The first challenge has been to delineate a domain that has inherently blurry and porous borders, despite attempts to define it. While this fuzziness makes international entrepreneurship a stimulating and dynamic area of study, it also makes it difficult to contain. The second challenge has been to select only eight *JIBS* articles to include in this volume. I chose them on the basis of three criteria. First and foremost, I chose articles which challenge conventional wisdom in international entrepreneurship thinking in

some important way. Second, except for the two classic conceptual papers already mentioned, I chose empirical papers. I prioritized empirical papers because it can be difficult to access data on very new and very small firms, and on opportunities, and these papers highlight how scholars have overcome these difficulties. Finally, I wanted a broad mix of papers to reflect the diversity of research that can be considered international entrepreneurship scholarship, and the diversity of empirical methods that have been used.

Although the published volume can contain only eight previously published papers, this introductory chapter can showcase the wide-ranging array of international entrepreneurship research published in *JIBS*. My objective is to highlight conversations in the journal by describing the coverage of papers from the *JIBS* backlist. Limiting the discussion to *JIBS* articles does not seem constraining given the recent reviews and commentaries of international entrepreneurship, both broad and narrow, that cover research from multiple journals (see, e.g. Casillas & Acedo, 2013; De Clercq, Sapienza, Yavuz, & Zhou, 2012; Fernhaber & Prashantham, 2015; Jones, Coviello, & Tang, 2011; Keupp & Gassmann, 2009; Kiss, Danis, & Cavusgil, 2012; Knight & Liesch, 2016; Mainela, Puhakka, & Servais, 2014; Reuber et al., 2017; Reuber & Fischer, 2011; Reuber, Knight, Liesch, & Zhou, 2018; Szyliowicz & Galvin, 2010).

The discussion in this introductory chapter is both backward looking and forward looking. Most of the discussion highlights past literature, organized around four major themes of research that have emerged from the 1990s: (a) factors enabling internationalization under resource constraints, (b) network relationships and entrepreneurial internationalization, (c) entrepreneurial processes and practices underlying internationalization, and (d) how entrepreneurship varies internationally. It should be noted that just as there are no hard and fast boundaries around international entrepreneurship research, there are no hard and fast boundaries around these four themes, and there is some spillover among them. Indeed, papers on themes (c) and (d) are grouped together in Part IV of this book because the papers are about practices. At the end of this introductory chapter, I outline some ideas for future research, highlighting perspectives that might underlie new types of research questions about international entrepreneurship.

Factors Enabling Internationalization Under Resource Constraints

One clearly dominant theme can be identified among the international entrepreneurship papers published in *JIBS*: the attempt to understand the factors enabling and even encouraging internationalization under the resource constraints of newness and smallness. As outlined in this section, three interrelated streams of research can be identified, focusing on human capital, capabilities, and environments.

Human Capital

Autio (2005) points out that the focus on factors enabling internationalization under resource constraints represents a break from prior explanations in that it “turns the spotlight on the role of the entrepreneur” (2005: 13). This break resulted in more attention being paid to the human capital of the founding entrepreneur, or the founding management team, as an explanation of internationalization outcomes. Much of this research has focused on the role of people’s experience. For example, Reuber and Fischer (1997) show that internationally experienced teams are more likely to have foreign partnerships and to internationalize more quickly after start-up than teams with less experience, and both of these behaviours are related to a greater degree of firm-level internationalization. Ganotakis and Love (2012) argue that the human capital needed for entering exports markets is different than the human capital needed to succeed in them. Specifically, they show that while the experience of the founding team is related to a firm’s propensity to export, the educational attainment of the team is related to the export intensity achieved by the firm. Clark, Li, and Shepherd (2018) examine the role of country familiarity in managers’ cognitions related to foreign market selection.

Other scholars have extended our understanding of how human capital explains internationalization outcomes in new and small firms in particular contexts. Several such papers examine the impact of human capital obtained abroad by returnee entrepreneurs. Filatotchev, Liu, Buck, and Wright (2009) show that Chinese entrepreneurs who have worked or

studied abroad start firms with higher export orientation and export performance than Chinese entrepreneurs who have not. Liu, Lu, Filatotchev, Buck, and Wright (2010) find that returnee presence in a local industry in a Beijing high-tech cluster is related to innovativeness (patents per employee) in that industry. Lin, Lu, Liu, and Zhang (2016) find that Chinese returnees who claim they return with advanced technological or business knowledge from abroad are more likely to start businesses in China. In the context of family firms, Fernández and Nieto (2006) argue that outsiders can boost firm-level human capital. They contend that family members of family firms tend to lack the motivation and knowledge to internationalize successfully, and show that family firms with a corporate blockholder are more apt to export and have higher export intensity.

Overall, this stream of research has emphasized that individual people matter to internationalization outcomes under resource constraints. This makes sense because individuals are likely to be particularly important in explaining decisions when the key decision makers are few (small firms) and when the firm itself has little track record to build on (new firms). Much of this research has centred on a key few constructs, with experience being dominant. The theoretical rationale for the relevance of experience rests largely on the assumption that experience leads to experiential learning and opportunities to develop network ties. Future research could augment this perspective by investigating the potential drawbacks of experientially acquired expertise (see, e.g. Almandoz & Tilcsik, 2016; Dane, 2010). Further, in looking back at this research stream, Coviello (2015) argues that researchers should examine the effect of a broader array of individual-level characteristics on internationalization behaviours and outcomes, such as passion, creativity, and psychological attributes.

Capabilities

A second stream of research on the factors enabling internationalization under resource (and experience) constraints pays attention to firm-level capabilities. Cavusgil and Knight (2015) point out that the shift to

thinking about internationalization from an entrepreneurship perspective involved not only paying more attention to how resource barriers are overcome. It also involved paying more attention to exporting, which is a means to enter foreign markets that is less costly and more reversible than the foreign direct investment options previously emphasized. Hence, much international entrepreneurship research emphasizes capabilities related to exporting.

Empirical studies have uncovered a complementarity between exporting and innovativeness. Filatotchev and Piesse (2009) found that the research and development (R&D) intensity and export intensity of newly listed firms are related, and that both are related to firm growth. Similarly, Golovko and Valentini (2011) show that over time innovation and exporting are complementary activities which reinforce each other, and together are related to greater sales growth.

Mudambi and Zahra (2007; this volume) compare the survival of firms that internationalize soon after start-up with multinational enterprises (MNEs) that internationalize sequentially using foreign direct investment. They find that the first group of firms has lower survival rates but the difference disappears when the analysis takes into account known antecedents of early internationalization, such as the international experience of the top management team and the firm's innovativeness. This early empirical paper is important in pointing out the importance of endogenizing choices under resource constraints when examining internationalization outcomes. The authors conclude that managers make internationalization choices consistent with their capabilities. Their findings further suggest that team experience and innovativeness are particularly beneficial under more uncertain and volatile industry conditions. The authors contend that under these conditions the liabilities of newness and foreignness are relatively less severe.

Following in this tradition, Sui and Baum (2014) argue that early internationalizing firms need innovative capabilities commiserate with the extensiveness of their exporting activity. They hypothesize and find that firms entering foreign markets early and with a high export intensity need to be more innovative when these foreign markets are outside, rather than inside, their home region. They also hypothesize and find that both types of firms need to be more innovative than firms entering foreign

markets more gradually. Like Mudambi and Zahra (2007), this study emphasizes the importance of controlling for endogeneity. While early and extensive internationalization is associated with lower survival rates in export markets, differences in survival in export markets disappear when these choices are endogenized.

Several studies have examined capabilities beyond innovativeness. Knight and Cavusgil (2004) illustrate that innovativeness needs to be combined with marketing competences in order for new firms to succeed in diverse international markets. Lu, Zhou, Bruton, and Li (2010) show that the relationship between a firm's resources and its international performance is mediated by its ability to capture and use foreign market information and adapt to requests from foreign customers. Zhou, Barnes, and Lu (2010) test a similar mediated model, where the relationship between a firm's entrepreneurial orientation and its international performance is mediated by firm-level knowledge of how to navigate foreign markets and develop networks in foreign markets.

Overall, this stream of research has emphasized international performance as an outcome to be explained, in contrast to the entrepreneur-based research described in the previous section which tends to explain entrepreneurial choices, such as the propensity to enter foreign markets and export intensity. Cavusgil and Knight (2015) propose that these ideas about early internationalization are also relevant to product launches or ventures within established organizations. An explanatory factor frequently examined is a firm's innovativeness, which is often measured by its R&D intensity. Overall, however, the studies in this area are quite fragmented and there is little theory tying them together.

Environmental Conditions

The third stream of research on the factors enabling internationalization under the resource constraints of newness and smallness builds on these ideas by integrating individual-level and/or firm-level factors with environment-level factors in explaining patterns in the internationalization of new firms. Zahra (2005) points out that entrepreneurial opportunities are embedded in economic, historical, and geographical contexts which

impact their nature, and advocates paying attention to the home and host countries' institutional environments of international entrepreneurship activity. Likewise, Zander, McDougall-Covin, and Rose (2015) argue that "location matters" in understanding the internationalization of new and small firms, in terms of a firm's national, regional, and local context.

Fernhaber, Gilbert, and McDougall (2008) take up this challenge in arguing that local environments are a primary source of resources for new firms and, further, that localities which are industry clusters are resource-rich environments. Drawing on ecological theory, they hypothesize that the concentration of industry clustering is related to firms' ability to acquire the resources needed to internationalize, up to the point when competitive crowding erodes new ventures' access to resources. Their analysis of US-based technology ventures supports the curvilinear hypothesis, relating the degree of industry clustering and firm-level internationalization outcomes. Their analysis also shows that certain firm-level attributes—larger size, higher R&D intensity, highly experienced management team—enable firms to reap greater benefits from industry clustering and to be buffered from the negative impact of competitive crowding.

Drawing attention to both local and foreign contexts, Fan and Phan (2007; this volume) study new airlines launched after liberalization of the European airline industry, a research setting that allows analysis of market decision without considering firm-level technological advantages. They contend that early internationalizers are not "a distinct breed of firm" (2007: 1114), a contention repeated by Reuber et al. (2017). Rather, firms internationalize early because it makes economic sense to do so. This chapter is important in arguing that early internationalization decisions also involve decisions about allocating capacity to foreign markets, and that both decisions are influenced by host and home market characteristics. They find that foreign market entry is more cautious when firms have a large domestic market size, which is consistent with the suggestion that firms enter foreign markets early because of a lack of profitable opportunities at home. They also find that early internationalizing firms are more cautious about entering competitive foreign markets that are culturally dissimilar compared with those that are culturally similar. This suggests that even when entrepreneurs are able to overcome resource

constraints and enter foreign markets early, cultural differences are relevant to their internationalization decisions.

This focus on the relevance of home market and host market characteristics in explaining internationalization under resource constraints are extended in a recent paper by Deng, Jean, and Sinkovics (2018). Rather than viewing contextual variation as an explanation of internationalization decisions, they view it as moderating the effect of internationalization behaviour on the performance of young exporting firms. Specifically, they hypothesize and show that export expansion speed has a positive relationship with firm performance when host markets are more open and home markets are more liberal because of positive learning effects. However, export expansion speed is negatively related to firm performance when firms export to less open market because they are too resource-constrained to adapt to non-market routines and strategies.

Finally, in investigating the relationship between business environments and internationalization outcomes under resource constraints, Maelkelburger, Schwens, and Kabst (2012) shift attention to entry mode decisions. They point out, from a perspective of transaction cost economics, that asset specificity encourages equity-based entry modes, in order to safeguard investments, but resource constraints can deter small firms from using such high control modes. However, they contend that there are mechanisms which enable managers of small firms to safeguard investments while using low control modes such as exporting and contractual agreements. Their study shows that the relationship between asset specificity and an equity entry model is weakened by firm-level resources (reconceptualized as safeguards) such as managerial experience and host-country networks, and by host-country safeguards, such as the presence of firms to imitate, property rights protection, and cultural proximity. They conclude that managers of small firms are less sensitive to expropriation hazards when these safeguarding mechanisms are present.

Overall, this research adds complexity to our understanding of how small and new firms make internationalization decisions, and shows that home and host market conditions are consequential to them. Further, this research suggests that a lack of interest in foreign market options may not stem from deficits in knowledge, resources, or capabilities but can be thoughtful responses to environmental conditions.

Network Relationships and Entrepreneurial Internationalization

A second research theme evident among international entrepreneurship papers published in *JIBS* aims at understanding the role of network relationships in the pursuit of international opportunities by resource-constrained firms. This can be considered a subset of the broader theme of factors enabling the internationalization of new and small firms, discussed in the previous section, but it merits a separate discussion here due to its nature and influence.

Networks are often conceptualized as firm-level resources. For example, studying young Chinese firms, Zhou, Wu, and Luo (2007) find that their social (*guanxi*) networks mediate the relationship between their internationalization activities and firm performance. Also investigating the impact of social ties embedded in Chinese firms, Ellis (2011) looks at their impact on the identification of international opportunities, which he defines as a new agreement with a new market actor in a new foreign market. His study shows that using social ties to identify international opportunities is associated with higher quality opportunities, but also with opportunities in more similar, and less geographically distant, markets. Thus, social ties may be both enabling and constraining in that they lead to better opportunities but less diverse opportunities.

Oehme and Bort (2015) extend the notion of networks as a resource for new and small firms pursuing international opportunities by thinking about network partners themselves as embodying valuable information. In a longitudinal study of German biotechnology firms, they show that network partners constitute role models whose behaviour is imitated. Specifically, they seek to explain the mode of internationalization selected in different entries: international research and development alliances, international marketing and distribution alliances, international out-licencing, foreign direct investment (subsidiaries, acquisitions, and joint ventures), and exporting. They show that firms imitate entry modes chosen by their network peers, and this is especially the case when they are inexperienced or do not occupy a central position in a business network. From a theoretical perspective, the paper conceptualizes networks as source of isomorphism, and provides an understanding of the conditions and mechanisms that support imitative behaviour with respect to internationalization.

In contrast to viewing a firm's network as a resource or asset, a lack of network relationships has been conceptualized as a liability for an internationalizing firm. Johanson and Vahlne (2009) introduce the term "liability of outsidership" which refers to the negative impacts of not having a position in a relevant network (2009: 1415). They argue that "foreign market entry should not be studied as a decision about modes of entry, but should instead be studied as a position-building process in a foreign market network" (2009: 1415). They contend that becoming an insider takes places over an extended period of time, and involves commitment as well as the development of trust. Like Ellis (2011), they see the identification and development of foreign opportunities as being embedded in a firm's network and relationships.

Forsgren (2016) develops these ideas further and holds that the liability of outsidership may be more consequential for different entrepreneurial phases. He suggests that having a loose, open network in foreign markets may be advantageous in identifying more opportunities. However, being an insider with a closed, close-knit network may facilitate the acquisition of local knowledge and the development of new capabilities in pursuing international opportunities.

Brouters, Geisser, and Rothlauf (2016; this volume) support this conclusion empirically, by illustrating the value of local networks in the internationalization of businesses based on digital platforms. Through inductive analyses of interview data from platform-based businesses, they develop a set of hypotheses that explain user adoption in foreign markets by insidership within those markets. In particular, they highlight characteristics of a firm's user networks and the degree to which the firm uses diffusion mechanisms such as foreign market opinion leaders. This study is important not only for shedding light on insidership, but also for drawing attention to digital business models, which tend to be under-represented in international entrepreneurship papers in *JIBS* compared to their growing prominence in the world economy.

A second networks-related paper in this book is by Coviello (2006; this volume). Although it is the earliest paper of those discussed in this section, I discuss it last because it is different in orientation. This paper is important because it turns attention away from networks as an explanation of internationalization phenomena and focuses instead on network

characteristics as outcomes. Coviello investigates network dynamics in terms of the structural and interactional patterns at different stages of new ventures' evolution. By analysing data about the networks of early internationalizing software development firms, she develops propositions about how networks evolve over time as firms become more internationalized. While she finds clear patterns—for example, over time, network range and size increase, network density decreases, and economic ties dominate social ties—she also concludes that the networks of these young internationalizing firms are unstable and idiosyncratic due to the opportunistic nature of the ties between the focal firm and other market actors.

Overall, this body of research indicates that network relationships are clearly consequential to the pursuit of international opportunities. Network ties constitute resources in terms of providing access to other resources, such as specialized knowledge and introductions to business partners, and also in terms of providing exemplars for a focal firm, or its potential users, to copy. However, to the extent that they place bounds on what managers can see, or seek to attempt, they can also be constraining. In addition, this literature suggests that researchers should recognize that a cross-border network may or may not be the product of high commitment to a foreign market. Network relationships might be the products of a long-term position-building effort, but they also might be the products of opportunistic and transient objectives. Finally, over time there has been a movement away from the study of dyadic ties to a consideration of the broader network. Indeed, recently scholars have suggested using ideas about ecosystems to understand how inter-firm networks impact entrepreneurial internationalization (Cavusgil & Knight, 2015; Reuber et al., 2018; Zander et al., 2015).

Entrepreneurial Processes and Practices Underlying Internationalization

A third theme evident in the international entrepreneurship literature published in *JIBS* is the intent to shed light on the processes and practices through which firms internationalize under the resource constraints of newness or smallness. Important here is the consideration of dynamics

over time. Jones and Coviello (2005) highlight process and temporality in characterizing internationalization as a time-based process of entrepreneurial behaviour, where outcomes at one time impact later decisions. They argue that researchers should consider internationalization as emergent behaviour. Consistent with this view, Chandra (2017) studies entrepreneurs' decision-making about international entrepreneurial opportunities over time. He finds that they use simple rules to begin with—based on heuristics, emotions, immediate possible actions, and outside opinion—but over time, they shift to more calculative logic based on expected economic outcomes.

Likewise interested in the temporal dynamics underlying the pursuit of entrepreneurial opportunities, Mathews and Zander (2007) present a framework for understanding internationalizing multinationals as well as small or young firms internationalizing under resource constraints. They expect there to be path dependencies in internationalization that lead to predictable and possibly ineffective practices. However, they also contend that entrepreneurial firms not only internationalize to draw on their existing advantages, they also create their own advantages in pursuing international opportunities, and so internationalization can involve disequilibrium processes.

Scholars studying learning in the context of internationalization build on notions of dynamics and temporality too. Di Gregorio, Musteen, and Thomas (2009) argue that small firms can learn about being international by engaging foreign firms as suppliers, and this will result in greater internationalization of sale. They show that greater experience with offshore outsourcing is, indeed, to a higher degree of international sales and to sales in more geographic regions. Further, the outsourcing of services has a bigger impact on international sales than does the outsourcing of manufacturing: they explain the difference by arguing that greater personal interaction is involved in outsourcing services, facilitating the transfer of more tacit knowledge. In a longitudinal study, Casillas and Moreno-Menéndez (2014) study the impact of past foreign market entries on subsequent foreign market entries. Specifically, they show that experiential learning is consequential to the speed of internationalization. Their results indicate that the diversity of prior experience, in terms of countries and entry modes, has a U-shaped relationship with the speed of subsequent entry. In other words, it takes time to learn from diversity.

Also interested in learning, Prashantham and Floyd (2012) highlight the role of organizational routines—patterned, repetitious behaviour—in underpinning the relationship between the internationalization experience of a decision-maker and the firm-level international capabilities. In doing so, they draw on theory about organizational routines and argue that the nature of the variability encountered during internationalization triggers either improvisational learning and new capability development or trial-and-error learning and the improvement of existing capabilities. Further, they argue that the degree of sociocultural and institutional difference between a home market and a foreign market moderates these relationships.

In contrast, Monaghan and Tippmann (2018) argue that firms may not have time to learn. Firms engaged in rapid multinationalization—becoming a multinational enterprise at a fast pace—may have little time to absorb experiential knowledge while establishing foreign subsidiaries. Through an empirical study of software-as-a-service firms that are rapidly internationalizing through high commitment modes, they show that such firms rely on common industry recipes, or heuristics, and then augment and customize them to manage situation-specific requirements.

Lamb, Sandberg, and Liesch (2011; this volume) shift attention from the processes underlying firm-level internationalization to variation in practices. They examine how differences in small firm owners' understandings of internationalization—what internationalization means to them—are associated with variation in business practices. Studying what might seem like a homogeneous group of firms at first glance—small Australian wineries—they identify four different understandings among their owners and show that these differences are related to variation in practices such as assessing markets, pricing, and engaging agents. This chapter is important in pointing out the heterogeneity that can exist even among seemingly similar firms.

Finally, Kriz and Welch (2018), in a longitudinal study of high-tech spinouts, illustrate dialectic tensions between innovation and internationalization. In doing so, they point out that firms bringing new-to-the-world technologies to global markets face both technological and market uncertainty. This study makes visible activity related to foreign expansion that is normally invisible in international business research. Their study

shows not only that internationalization is more precarious than is often reported and that innovation and internationalization processes are intertwined, but also that it can be beneficial to consider a firm's technological base separately from the market offerings that may be formed from it.

Overall, research falling in this theme underscores a difference between entrepreneurship research and international business research. While entrepreneurship research tends to focus on a specific opportunity, the founding of a new firm, internationalization research tends to focus on multiple foreign market entries, or multiple opportunities (see also Reuber et al., 2018). This means that it is critical to recognize temporal considerations among firm-level actions. Further, past research highlights that internationalization processes have been considered proactive and agentic, as well as reactive and emergent. To achieve greater clarity of longitudinal relationships, Coviello (2015) points out the need to untangle actions, learning, capabilities, strategy, and performance as drivers and outcomes of entrepreneurial internationalization.

How Entrepreneurship Varies Internationally

The fourth and final theme of international entrepreneurship research discussed in this introductory chapter is the attempt to understand how entrepreneurship varies internationally. In a conceptual paper, Baker, Gedajlovic, and Lubatkin (2005) argue that approaches to comparative entrepreneurship tend to be under-socialized and present a framework to provide insights on how we should think about international variation. The framework is based on the notion of entrepreneurial opportunity and specifies that the nature of entrepreneurship will vary across countries: (1) the division of labour in a contextual setting affects who notices what opportunities, as well as opportunity costs, (2) the expected appropriate benefits affect the decision to pursue a noticed opportunity, and (3) the availability and specificity of resources affect how an opportunity is pursued.

Young, Welter, and Conger (2018) also focus explicitly on national variation in entrepreneurial opportunities, but investigate this variation empirically. They argue that the way in which entrepreneurial opportunities are

formed and exploited depends on the institutional environment in which they are embedded. Specifically, they develop and test a theoretical model showing that institutional arrangements which promote flexibility, and an entrepreneur's ability to respond to uncertainty by iterating, are associated with the pursuit of more innovative opportunities, while institutional arrangements which promote stability, and an entrepreneur's ability to assess risk, are associated with the pursuit of more imitative opportunities. In doing so, they highlight the distinction between uncertainty and risk, and the role of institutional flexibility and stability in influencing the types of opportunities pursued across countries.

Empirical research under this theme tends to draw on data from large international surveys, such as the Global Entrepreneurship Monitor (GEM) study for entrepreneurial outcomes and the Global Leadership and Organizational Behavior Effectiveness (GLOBE) study for explanations for these outcomes. Using these two databases, Stephan and Uhlaner (2010) develop and test hypotheses about the consequences of national culture across 40 countries, in particular, the extent to which it is socially supportive and performance-based. These consequences include start-up and business ownership within a country, as well as to precursors of entrepreneurship such as self-efficacy, the social desirability of entrepreneurship, the quality of opportunities available, and the extent to which the country provides a favourable infrastructure for entrepreneurship. Building on this work, and using the same databases, Autio, Pathak, and Wennberg (2013) examine the impact of country-level characteristics—societal-level collectivism, uncertainty avoidance, and performance orientation—on individuals' growth aspirations and propensity to start a business across 42 countries. In contrast to the focus on commercial entrepreneurship in previous studies, Stephan, Uhlaner, and Stride (2015) seek to explain cross-national variability in the likelihood that an individual will engage in social entrepreneurship. They show that the propensity to engage in social entrepreneurship is related to the joint effect of three country-level support mechanisms: the ability of the government to address social issues, postmaterialist cultural values, and a socially supportive culture.

Scholars have also found explanations for cross-national differences in entrepreneurial outcomes in more formal institutional differences, also drawing on GEM data. Bowen and De Clercq (2008) found that the

proportion of a country's start-ups that are high job creation start-ups is positively related to the extent to which financial capital and educational capital are targeted at entrepreneurship and negatively related to corruption in the country. Anokhin and Wincent (2012) show that the relationship between a country's start-up rate and its innovativeness is moderated by its level of development. They conclude that, at early stages of development, most start-up activity is based around low-quality opportunities aimed at subsistence rather than high-quality opportunities resulting in innovation.

In examining institutional arrangements, Vaaler (2011; this volume) turns things around. Rather than explaining entrepreneurial activity as a consequence of institutional factors, Vaaler explains institutional characteristics as a consequence of entrepreneurial activity. He studies immigrants in developed countries and investigates the impact of the remittances they send back to their home country. He shows that these remittances are associated with increased capital, business start-up rates, and openness to international trade in those countries. These findings suggest that rather than serving only as subsistence assistance to family and friends, these entrepreneurial practices play an important role in providing investment capital that might otherwise not be available. This perspective is novel in pointing out that individual behaviours can have institutional effects.

Finally, given the resource constraints constituting barriers to successful entrepreneurship, it is not surprising that a sub-theme of comparative international entrepreneurship is focused on how the decision-making of financial resource providers varies institutionally. Guler and Guillén (2010) examine how investment from American venture capital firms varies across host countries. They show that entry to a new country increases with the local level of innovation and technology, legal protection of property rights, the size of the local stock exchange and the stability of local policy. However, they also show that investors become less cautious as they become more internationally experienced, suggesting that they learn to overcome institutional constraints.

Past research on financial resource provision has also considered how it varies across home countries. This work reflects diverse research methods. In a study spanning 34 countries and using large-scale databases (GEM

and VentureXpert), Cumming and Knill (2012) find that stricter securities regulations are associated with a greater supply of venture capital and more Initial Public Offering (IPO) exits. Using an experimental design, Zacharakis, McMullen, and Shepherd (2007) examine decision-making differences among venture capitalists from different countries. Their results indicate that the investors used the same information in making investment judgements, but that US-based investors weighed market information more heavily than the other investors, and Chinese investors weighed human capital information most heavily. Through a qualitative, case-based study, Bruton, Ahlstrom, and Puky (2009) examine the activities of venture capitalists in emerging economies in Latin America and Asia and find that they adapt to institutional environments, for example, being largely constrained to business sales in terms of exit. However, they also contribute to the development of institutions when they are lacking, such as improving accounting and corporate governance standards.

A recent cross-national study on resource provision focuses attention on the provision of microfinance, financial resources that are particularly relevant in supporting entrepreneurship in developing countries. In a longitudinal, multilevel study, Ault (2016) examines the impact of state fragility on the extent to which microfinance lenders migrate to wealthier clients over time. He finds that for-profit microfinance organizations are more likely to drift away from the objective of market inclusivity towards wealthier clients. Moreover, there is a greater likelihood of this drift in the fragile states that have the most poverty. Overall, he concludes that the opportunity to service a low-income market segment through innovative lending models is affected by its institutional context.

Most of this research is based on persistent institutional conditions. In contrast, several studies are important in serving as a reminder that there can be institutional upheaval that is consequential to entrepreneurial phenomena. For example, Danis, Chiaburu, and Lyles (2010) examine changes in entrepreneurial activity during Hungary's transition to a private market economy, and show that they change as the competitive environment destabilizes and then becomes more stable again. As another example, Branzei and Abdelnour (2010) show how terrorism events impact the nature of entrepreneurial opportunities and outcomes.

Taken together, this body of research provides compelling evidence that formal and informal institutional characteristics affect the nature of entrepreneurship across countries, in terms of outcomes start-ups, growth aspirations, innovation, the types of opportunities pursued, and the type of financing available. However, as is the case with firm-level research, these studies tend to be quite fragmented. International entrepreneurship scholars have not yet developed an overarching theory to make sense of the rather disparate findings.

Onward Journeys: Where to Go Now?

As is the case with the trajectory of much social science research, research about international entrepreneurship has been cumulative, with successive studies building on past insights, both theoretical and methodological. This path has resulted in an impressive body of findings that can be integrated and interpreted on the basis of shared assumptions about what constitutes interesting and relevant research questions. However, the potential downside to such consensus is that it is difficult to move away from it and consider alternate perspectives and prospects. I am reminded of the apocryphal story of the person looking for car keys under the streetlight where the light is better, even though it is likely that they were lost elsewhere, where it is dark. My intention in this section is to suggest three opportunities for international entrepreneurship scholars to move away from the current streetlight in order to shed light on new kinds of research questions. These opportunities are associated with the shifts shown in Table 1.1. It is important to recognize that I am not suggesting a disconnect with prior research; indeed, I believe that the threads of new possibilities are evident in *JIBS* papers discussed earlier in this chapter.

First, there may be possibilities for new research questions when scholarly attention is shifted from decision-making and the concomitant focus on market entries—and especially first foreign market entries—to organizational identities, logics, and practices. Entrepreneurial internationalization takes place over time. Scholars have pointed out this temporality (e.g. Jones & Coviello, 2005), and research to-date has emphasized the influence of experiential learning on market entry decisions (e.g. Casillas

Table 1.1 Opportunities to shift attention in international entrepreneurship research

From	To
Decisions, entries, first entries	Identities, logics, practices, action sequences
Continuity, stability, selection, intention, path dependence	Discontinuity, destabilization, adaptation, serendipity, emergence
Opportunity as pursued by firm	Opportunity as co-created and situated

& Moreno-Menéndez, 2014; Di Gregorio et al., 2009). There is less research examining the influences of organizational identities, logics, and practices on internationalization and, conversely, the influences of internationalization on organizational identities, logics, and practices. Organizational scholars (e.g. Thornton, Ocasio, & Lounsbury, 2012) suggest that these reciprocal relationships are likely to be important in explaining firm-level internationalization because they can shift the availability of resources as well as firm-level attentional and sensemaking processes. Some research already published in *JIBS*, such as Prashantham and Floyd's conceptual work on routines (2012), Lamb, Sandberg and Liesch's study of practices (2011), and Monaghan and Tippmann's analysis of industry recipes (2018), offers some possibilities for moving forward in this regard to develop more sophisticated frameworks of how entrepreneurial organizations internationalize.

Second, and related, a shift in attention from one-way relationships to reciprocal relationships highlights that internationalization can be destabilizing to individuals, organizations, and institutional environments, and that interesting research questions may ensue from considering the nature and impact of such destabilization. Research in the international entrepreneurship area tends to focus on explaining trajectories of increasing foreign market presence. However, Sui and Baum's research on market exits (2014), Coviello's investigation of the international network ties of young firms (2006), Vaaler's analysis of the impact of remittances (2011), and Kriz and Welch's study of the interplay between technology construction and market construction (2018) show that cross-border activities do not necessarily constitute trajectories and may be discontinuous. This is consistent with entrepreneurship research highlighting that the pursuit of opportunities is unpredictable and retractable (Dimov, 2011). Further, some scholars examining the institutional arrangements

underlying entrepreneurship point out that these arrangements may not be stable (Branzei & Abdelnour, 2010; Danis et al., 2010). Borrowing from some organizational scholars (e.g. Garud, Kumaraswamy, & Karnøe, 2010; MacKay & Chia, 2013), research along these lines could shed light on adaptation rather than selection, on serendipity rather than intention, or on unintended consequences and emergence rather than experiential learning and path dependence.

Finally, while much international entrepreneurship research views opportunities as discrete events (usually market entries) occurring at the firm level, some research published in *JIBS* illustrates their contextual embeddedness. In this volume, Mudambi and Zahra (2007) and Fan and Phan (2007) show how environmental conditions impact the foreign opportunities pursued by managers of young firms. More recently, studying businesses based on digital technologies, Brouthers et al. (2016) provide evidence that user networks in foreign markets are consequential to success in those markets. This latter study not only illustrates the situated nature of opportunities, but also points out that they are likely to involve external co-creators beyond suppliers and partners. It is consistent with the recognition that entrepreneurial opportunities are spatially and temporally situated, and may involve dispersed or shared agency (see, e.g. Garud, Gehman, & Giuliani, 2014; Garud & Karnøe, 2003). This suggests that interesting avenues for international entrepreneurship researchers may lie in examining the microfoundations of individual and firm interactions within institutional contexts.

In Closing

A journal's backlist can be daunting to navigate, especially if the journal is multidisciplinary like *JIBS*, and the research domain you are interested in has fuzzy boundaries, like international entrepreneurship. It is difficult to get a sense of what is there when papers are scattered across more than two decades of journal issues. Further, this discussion shows that individual research contributions tend to be rather scattered as well, without a unifying coherent theoretical perspective tying them together. This chapter is intended to enable scholars to understand better the diversity

of topics and approaches within and across the four research themes described here, and to position the eight *JIBS* papers in this volume within the context of a multifaceted flowing stream of research. While my focus has been largely past-oriented in order to reveal the scope of international entrepreneurship that has been published in *JIBS*, I also encourage scholars to look for opportunities to bring new orientations and perspectives to the questions they ask about international entrepreneurship.

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Part I

Theoretical Foundations of International Entrepreneurship as a Scholarly Field



2

Toward a Theory of International New Ventures

Benjamin M. Oviatt and Patricia Phillips McDougall

Introduction

The study of the multinational enterprise (MNE) has focused on large, mature corporations. Historically, many MNEs developed from large, mature, domestic firms (Chandler, 1986), and they commanded attention because they wielded significant economic power, especially after World War II (Buckley & Casson, 1976; Dunning, 1981; Hennart, 1982). However, recent technological innovation and the presence of

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increasing numbers of people with international business experience have established new foundations for MNEs. An internationally experienced person who can attract a moderate amount of capital can conduct business anywhere in the time it takes to press the buttons of a telephone, and, when required, he or she can travel virtually anywhere on the globe in no more than a day. Such facile use of low-cost communication technology and transportation means that the ability to discover and take advantage of business opportunities in multiple countries is not the preserve of large, mature corporations. New ventures with limited resources may also compete successfully in the international arena.

Since the late 1980s, the popular business press has been reporting, as a new and growing phenomenon, the establishment of new ventures that are international from inception (Brokaw, 1990; Gupta, 1989; Mamis, 1989; *The Economist*, 1992, 1993b). These start-ups often raise capital, manufacture, and sell products on several continents, particularly in advanced technology industries where many established competitors are already global.

LASA Industries, Inc., which sold an unusually efficient microprocessor prototyping technology, is representative of these international new ventures formed within the past decade. As detailed by Jolly, Alahuhta, and Jeannet (1992), LASA's strategy was international in multiple respects. Its founders were American, Swiss, and French. Its funding was European. The operational headquarters and R&D were located in the United States, while marketing was managed from France and finance from Switzerland. Manufacturing was centered in Scotland to take advantage of attractive regional grants, and initial sales were in France and the United States.

IXI Limited, a British venture that became a leading supplier of desktop windowing computer software for UNIX operating systems, violated the usual expectation that firms begin with sales in their home country and later sell to foreign countries. Ray Anderson, the venture's founder and chairman, had previously worked for a British computer company that failed. Through Anderson's work in that company's Boston and Canadian operations he became aware of the needs of the North American market. While discussing the failure of his former company Anderson said,

... it did not succeed because we tried to sell the product by starting up in England and then selling in the U.S., and by that time it was too late. We should have developed our products first of all for the U.S. market and then sold it back into England. (Anderson, 1992)

When Anderson started IXI, his stated strategy was to target the United States first, Japan second, and then move back into the United Kingdom. Funding for the venture was from the United Kingdom, Germany, Austria and Japan. Foreign subsidiaries were set up in the United States and Japan. Only after establishing itself in both those countries did IXI turn its attention to its home country, and then to mainland Europe. In an interview four years after the product's introduction, Anderson estimated 60% of IXI's revenues came from the United States, 20% from the United Kingdom, 10% from Japan, and 10% from other countries.

Actually, international new ventures have existed for centuries. The famous East India Company was chartered in London in 1600 (Wilkins, 1970). In early 19th century America, the unprecedented value of cotton exports gave birth to specialized cotton traders (Chandler, 1977). The Ford Motor Company also seems to have been an international new venture at its founding in 1903 (Wilkins & Hill, 1964). However, the focus of interest has been on MNEs that developed over time from large, mature, integrated enterprises (Chandler, 1986), and we believe that has obscured the existence of international new ventures.

As a result, scholars of organization science have ignored international new ventures until very recently. Figure 2.1 depicts our sense of the domain of scholarly literature on organizations. A substantial body of research has been published on established firms, both domestic and international, and on domestic new ventures. However, there is much less work in the quadrant of international new ventures. Entrepreneurship research on international issues has largely concerned itself with (1) the impact of public policies on small-firm exporting (e.g., Rossman, 1984), (2) entrepreneurs and entrepreneurial activities in various countries (e.g., Westhead, 1990), and (3) comparisons between small-firm exporters and non-exporters (e.g., Kedia & Chhokar, 1985).

		Geographic Scope	
		Domestic	International
Organization Age	New	I	II
	Established	III	IV

Significant amounts of literature

Figure 2.1 The Domain of Academic Literature on Organizations. Adapted from the presentation of Candida Brush in McDougall, Oviatt, and Brush (1991)

The age of an organization when it internationalizes has been considered infrequently. Vozikis and Mescon (1985) did show that exporters that were start-ups reported more problems with export operations than did mature small exporters. More often, reports of new ventures that were international at or near inception have been regarded as exceptional (e.g., Welch & Loustarinen, 1988). In addition, the age of small exporters has frequently been viewed as an unimportant demographic characteristic (e.g., Malekzadeh & Nahavandi, 1985), or a side issue (e.g., Cooper & Kleinschmidt, 1985).

However, since 1989, reports based on case studies of international new ventures have begun to appear from scholars of entrepreneurship. Some have shown that such ventures form because internationally experienced and alert entrepreneurs are able to link resources from multiple countries to meet the demand of markets that are inherently international (Coviello & Munro, 1992; Hoy, Pivoda, & Mackrle, 1992; McDougall & Oviatt, 1991; Oviatt, McDougall, Simon, & Shrader, 1994; Ray, 1989). Other case studies have shown that the success of international new ventures seems to depend on having an international vision of the firm from inception, an innovative product or service marketed through a strong network, and a tightly managed organization focused on international sales growth (Ganitsky, 1989; Jolly et al., 1992; McDougall, Shane, & Oviatt, 1994).

Collectively, these case studies indicate that international new ventures are an important phenomenon. They have identified the formation of international new ventures in more than ten countries in all parts of the world, suggesting that global forces may be promoting their development. In addition, the studies show that interest in the topic is recent and has emerged independently and nearly simultaneously from several groups of scholars. Finally, while many of the ventures studied were in high-tech businesses, services and even aquaculture were represented, suggesting that international new ventures may appear in a wide range of industries.

Additional indicators of the emergence of international new ventures have also appeared. Brush's (1992) study of small, internationalized, U.S. manufacturers found 17 firms—13% of her random nationwide sample—were internationalized during their first year of operation. Ernst and Young's survey of 303 firms in the North American electronics industry (Burrill & Almassy, 1993) showed that in 1987 53% of the firms in the industry were operating domestically. In 1992, only 17% were domestic, and by 1997 only 9% were expected to be. A third of the firms surveyed were still in development with less than \$5 million in revenue.

The fact that the business press believes the emerging phenomenon of international new ventures is important and that some academics working independently around the world have described similar organizations indicate a need for systematic research on these infrequently studied new ventures. However, the overall purpose of this paper is not to add to the growing descriptions of particular international new ventures. Rather, it is to define and describe the phenomenon and to present a framework explaining how international new ventures fit within the theory of the MNE. We hope that a well-delineated, theoretical framework will unify, stimulate and guide research in the area.

The next section provides a formal definition of international new ventures. Following that, certain problems are considered regarding the application of standard MNE concepts to international new ventures. Next, a theoretical framework explaining international new ventures is presented. It integrates accepted MNE theory with recent developments in entrepreneurship and strategic management research. Finally, four types of international new ventures are described in terms of our

international new venture framework, the number of value chain activities they coordinate (Porter, 1985), and the number of countries in which they operate.

A Definition of International New Ventures

We define an *international new venture* as a business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries. The distinguishing feature of these start-ups is that their origins are international, as demonstrated by observable and significant commitments of resources (e.g., material, people, financing, time) in more than one nation. The focus here is on the age of firms when they become international, not on their size. In contrast to organizations that evolve gradually from domestic firms to MNEs, these new ventures begin with a proactive international strategy. However, they do not necessarily own foreign assets; in other words, foreign direct investment is not a requirement. Strategic alliances may be arranged for the use of foreign resources such as manufacturing capacity or marketing. Thus, consistent with Buckley and Casson's (1976) definition of the multinational enterprise, the definition of the international new venture is concerned with value added, not assets owned (Casson, 1982).

The fact that international new ventures are international from inception implies that some decision must inevitably be made about when inception occurs. Much has been written in the entrepreneurship literature concerning the point at which a new venture is considered to exist as an organization (e.g., Katz & Gartner, 1988). However, Vesper argued that there can be no ultimate resolution, because the emergence of a venture is "spread over time in which its existence becomes progressively more established" (1990, p. 97). Thus, empirical studies of international new ventures must resolve a definitional ambiguity. We believe researchers should rely on observable resource commitments to establish a point of venture inception. For new ventures that have no sales because their product or service is under development, there must be a demonstrated commitment to sell the output in multiple countries upon completion of development.

Problems in the Application of MNE Theory to International New Ventures

Stage theories of the MNE and the common emphasis on organizational scale as an important competitive advantage in the international arena are inappropriate explanations of multinational business activity for new ventures that are instantly international.

The Stage Theory of MNE Evolution

MNEs are believed by many people to evolve only after a period of domestic maturation and home market saturation (Caves, 1982; Porter, 1990). Empirical researchers have in the past found that large, mature MNEs and small exporters go through distinct stages in the development of their international business. They begin perhaps with an unsolicited foreign order, proceed sometimes through exporting and the development of an international division, and occasionally advance to the establishment of a fully integrated, global enterprise (Aharoni, 1966; Bilkey & Tesar, 1977; Czinkota & Johnston, 1981; Stopford & Wells, 1972).

This staged development of firm internationalization is described as an incremental, risk-averse and reluctant adjustment to changes in a firm or its environment (Johanson & Vahlne, 1977, 1990). The process preserves routines that bind organizational coalitions, and recognizes the difficulty of gaining knowledge about foreign markets. Differences in language and culture and, in the past, the slow speed of communication and transportation channels between countries have inhibited the gathering of information about foreign markets and have increased the perceived risks of foreign operation.

With a logical explanatory theory and repeated empirical confirmation, stage models of MNE development have been transformed from descriptive models, and “were soon applied prescriptively by consultants, academics, and managers alike” (Bartlett & Ghoshal, 1991, p. 31). In addition, Caves indicated that international firms must experience an extended evolutionary process when he directly contrasted MNEs with “newly organized firms” (1982, p. 96). However, recent studies have

found contradictions. For example, Welch and Loustarinen (1988) discussed reports of small English firms, Australian start-ups, and established Swedish firms that skipped important stages and were involved with unexpected speed in direct foreign investments. In addition, Sullivan and Bauerschmidt (1990) found that a firm's stage of international involvement was an unexpectedly poor predictor of European managers' knowledge and beliefs. Finally, Turnbull (1987) presents a strong conceptual and empirical criticism of the stages theory of internationalization. Johanson and Vahlne (1990) dismissed these concerns as merely indicative of the need for adjustment to their model of firm internationalization. We believe, however, that the emergence of international new ventures presents a unique challenge to stage theory. It purportedly best applies to the early stages of internationalization with only three exceptions (Johanson & Vahlne, 1990). First, firms with large resources are expected to take large steps toward internationalization. Second, when foreign market conditions are stable and homogeneous, learning about them is easier. Third, when firms have considerable experience with markets that are similar to a newly targeted foreign market, previous experience may be generalizable to the new arena. Yet none of the exceptions seem to apply to international new ventures. Resources are constrained by their young age and usually by small size. Their markets are among the most volatile (indeed, several of the international new ventures we have studied appear to contribute to industry volatility). Finally, new ventures, by definition, have little or no experience in any market. Therefore, according to Johanson and Vahlne's (1990) own standards, stage theory needs more than a minor adjustment.

Scale and the MNE

In addition to the belief that firms must go through stages of evolution before venturing into foreign lands, large size is often thought to be a requirement for multinationality. The first modern MNEs evolved in the 1880s and 1890s and were large, mature, integrated companies (Chandler, 1986). They and their descendants have reaped substantial economies of scale in R&D, production, marketing, and other areas. An additional

advantage of large, vertically integrated or diversified MNEs has been their ability to efficiently manage international communication and transportation and the exchange of production and market information among many countries (Stopford & Wells, 1972). In addition, their market power in oligopolistic industries has been highlighted as a source of MNE advantage (Dunning, 1981; Glickman & Woodward, 1989; Porter, 1990).

Yet, if large size were a requirement for multinationality, international new ventures would seldom form because they are almost always small organizations. One key to understanding how they can exist is to recognize that large size may be both a cause and an effect of multinational competitive advantage. In some industries, such as pharmaceuticals, the sales volume generated by multinational operation makes feasible a large-scale R&D effort. In turn, R&D produces differentiated products, such as patented drugs, that provide competitive advantages over purely domestic firms in many countries. Thus, despite the fact that size is the main firm-specific variable that has explained multinationality (Glickman & Woodward, 1989), large MNE size may be a concomitant, not a cause, of other more elemental sources of competitive advantage (Casson, 1987; Caves, 1982). Those more elemental sources of advantage make international new ventures possible.

The Changing International Environment

Although large size continues to be an important source of advantage for some MNEs, changing economic, technological, and social conditions have in recent years highlighted additional sources. Dramatic increases in the speed, quality, and efficiency of international communication and transportation have reduced the transaction costs of multinational interchange (Porter, 1990). Furthermore, the increasing homogenization of many markets in distant countries has made the conduct of international business easier to understand for everyone (Hedlund & Kvemeland, 1985). The upshot is that increasing numbers of business executives and entrepreneurs have been exposed to international business. International financing opportunities are increasingly

available (Patricof, 1989; Valeriano, 1991). And human capital is more internationally mobile (Johnston, 1991; Reich, 1991).

With such conditions, markets now link countries more efficiently than in the past, and the hierarchies of large, established firms no longer have the competitive advantage they once enjoyed in international communication and trade (*The Economist*, 1993a). Internationally sustainable advantage is increasingly recognized to depend on the possession of unique assets (Barney, 1991; Caves, 1982; Hamel & Prahalad, 1990; Stalk, Evans, & Shulman, 1992).

A priori, valuable unique assets should permit organizations with more constrained resources, such as new ventures, to enter the international arena. In addition, improved international communication and transportation along with the homogenization of markets in many countries should, a priori, simplify and shorten the process of firm internationalization. Thus, firms may skip stages of international development that have been observed in the past, or internationalization may not occur in stages at all.

We believe that is precisely what has been observed recently by a number of business journalists and business academicians—firms not following the theories of incremental firm internationalization. However, that does not mean that established theories are wrong; they still apply to some firms and industries. Yet it does mean that the established theories are less applicable in an expanding number of situations where technology, specific industry environments, and firm capabilities have changed as we have described.

Necessary and Sufficient Elements for Sustainable International New Ventures

With many markets internationalizing, fewer new ventures can escape confrontations with foreign competition, and more entrepreneurs are adopting a multinational viewpoint (Drucker, 1991; Ohmae, 1990; Porter, 1986, 1990). Thus, the stage theory of firm internationalization is increasingly incongruent with recent developments, and large scale has become only one among many ways to compete internationally. As a

result, a new framework is needed to lead both theoretical development and empirical investigation toward greater understanding of international new ventures.

The foundation of the theoretical framework that we propose is traditional in its reliance on transaction cost analysis, market imperfections, and the international internalization of essential transactions to explain the existence of the MNE. However, the framework also incorporates recently developed ideas from entrepreneurship scholars about how ventures gain influence over vital resources without owning them and from strategic management scholars about how competitive advantage is developed and sustained. Together, all these elements describe the international new venture as a special kind of MNE.

Essentially, the theoretical framework is an elaboration of Figure 2.1 (shown earlier), which classifies four types of organizations by age and geographic scope. Figure 2.2 depicts the framework. The boxes show sets of economic transactions that are of particular interest in this paper.

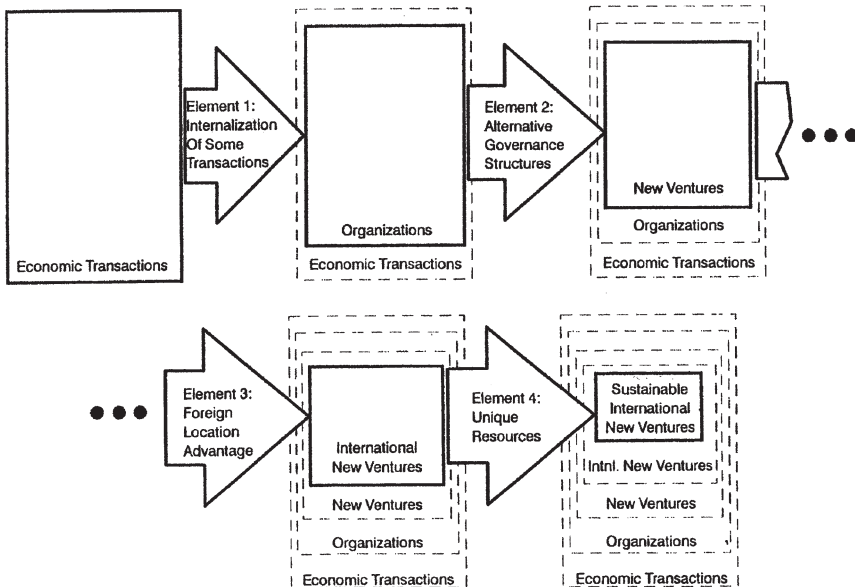


Figure 2.2 Necessary and Sufficient Elements for Sustainable International New Ventures

The arrows represent elements that distinguish a subset from a larger set of transactions.

The framework begins with the box at the upper left, which is the set of all types of *Economic Transactions*. Four necessary and sufficient elements, which are enumerated within the large arrows, progressively distinguish subsets of transactions. “Element 1: Internalization of Some Transactions” distinguishes transactions that take place in *Organizations* from those that are governed by markets. From the set of all *Organizations*, strong reliance on “Element 2: Alternative Governance Structures” separates the subset of transactions associated with *New Ventures* from those in established firms. Next, “Element 3: Foreign Location Advantage” distinguishes the subset of transactions constituting *International New Ventures* from those that constitute domestic new ventures. Finally, “Element 4: Unique Resources” differentiates the subset of *Sustainable International New Ventures* from those likely to be short-lived. The dashed concentric boxes highlight the fact that the interior boxes depict the progressively more narrow subsets, and the shading shows the path of our narrowing interests. The effects of the four elements are fully described in the sections below.

Element 1: Internalization of Some Transactions

The internalization element is most basic and is clearly part of traditional MNE theory. Organizations form where economic transactions are inefficiently governed by market prices (Coase, 1937; Williamson, 1985); in other words, where market imperfections exist. It is the defining element of all organizations, whether new or established, domestic or multinational. When the transaction costs of constructing and executing a contract and monitoring the performance of the contracting parties are at their lowest in an organization, its hierarchical authority (not market prices or a hybrid contract) will be the governance mechanism chosen, and the transaction is said to have been internalized within an organization (Buckley & Casson, 1976; Dunning, 1981, 1988).

It should be noted that the internalization element of MNE theory is often used to explain foreign direct investment; that is, ownership of

assets located in foreign countries. Indeed, Hymer's (1960) seminal work on the internalization of international transactions was among the first theoretical presentations to distinguish between passive portfolio investment and foreign direct investment, and it focused on explaining the latter. Nevertheless, *ownership* of foreign assets is not a defining characteristic of either MNEs or international new ventures (Casson, 1982). Of course, an organization must own some assets, else it will have nothing of value to exchange in an economic transaction.

Element 2: Alternative Governance Structures

Poverty of resources and power may not be a defining characteristic of the new venture, but it is a nearly universal association (Stinchcombe, 1965; Vesper, 1990). Thus, new ventures commonly lack sufficient resources to control many assets through ownership. The result is that new ventures tend to internalize, or own, a smaller percentage of the resources essential to their survival than do mature organizations. Entrepreneurs must rely on alternative modes of controlling many vital assets (Vesper, 1990), and that fact distinguishes new ventures from other organizations.

Williamson (1991) noted that under conditions of moderate asset specificity and low to moderate disturbance frequency, hybrid structures, such as licensing, and franchising, are often useful alternatives to both internal control and market control over the exchange of resources. Hybrid partners share complementary assets to their mutual benefit. However, due to the potential for opportunism, as evidenced by the elaborate contracts that usually structure the relationships between the parties and the frequent reports of hybrid failure (Kanter, 1989; Porter & Fuller, 1986), new ventures risk expropriation by their hybrid partners of the valuable assets that they do own (Teece, 1987). Large Japanese firms, for example, have sometimes appeared to form predatory alliances with American high-technology start-ups.

An even more powerful resource-conserving alternative to internalization for new ventures is the network structure (Aldrich & Zimmer, 1986; Larson, 1992). Networks depend on the social (i.e., informal) control of behavior through trust and moral obligation, not formal contracts. Cooperation dominates opportunism because business and personal rep-

utations are at stake that may greatly affect economic rent in and beyond a spot transaction. Larson's (1992) rich description of the gains in resources and knowledge of four entrepreneurial organizations in seven intimate network alliances is impressive. Yet risks were also clear. Two of the seven relationships failed after many years of successful operation, leaving both partners with weaknesses. Nevertheless, even after failure, proprietary knowledge was protected and trust was maintained.

In summary, a major feature that distinguishes new ventures from established organizations is the minimal use of internalization and the greater use of alternative transaction governance structures. Due to their poverty of resources and power, new ventures may even use such structures when the risk of asset expropriation by hybrid partners is high.

Element 3: Foreign Location Advantage

The location advantage element of the framework distinguishes international from domestic organizations. Essentially, firms are international because they find advantage in transferring some moveable resources (e.g., raw material, knowledge, intermediate products) across a national border to be combined with an immobile, or less mobile, resource or opportunity (e.g., raw material, a market) (Dunning, 1988).

However, a firm conducting transactions in a foreign country has certain disadvantages vis-à-vis indigenous firms, such as governmentally instituted barriers to trade and an incomplete understanding of laws, language, and business practices in foreign countries. As noted earlier, MNEs have often relied on the advantages of scale to overcome such obstacles. But international new ventures must usually rely on other resources.

Private knowledge is the most obvious alternative, and it has some interesting properties (Buckley & Casson, 1976; Caves, 1982; Rugman, 1982). The property that provides location advantage for modern MNEs, including international new ventures, is the great mobility of knowledge once it is produced. With modern communication infrastructures, valuable knowledge can be reproduced and can travel literally with the speed of light at minimal marginal cost. For example, software often requires years of development, but once written, it may be copied and used

ad infinitum with insignificant additional costs. Knowledge can then be combined with less mobile resources in multiple countries (e.g., factories where the software is needed). Thus, private knowledge may create differentiation or cost advantages for MNEs and international new ventures that overcome the advantages of indigenous firms in many countries simultaneously.

That appears to be why knowledge-intensive industries have been globalizing at such a rapid pace (Reich, 1991), and why a new venture with valuable knowledge is propelled to instant rather than evolutionary internationalization. When a firm introduces valuable innovative goods or services it signals at least the existence, if not the essence, of its special knowledge to outsiders.

Competitors, therefore, will try to uncover the secret or to produce equifinal alternative knowledge, and the recent increased efficiency of international markets speeds the whole competitive process. New ventures confronted with such circumstances must be international from inception or be at a disadvantage to other organizations that are international already. Thus, the prevalence of international new ventures is predicted to accompany the increasing efficiency of international markets.

Element 4: Unique Resources

The first three elements define the necessary conditions for the existence of an international new venture: Internalization of some transactions, extensive use of alternative transaction governance structures, and some advantage over indigenous firms in foreign locations. However, these are not sufficient conditions for sustainable competitive advantage.

Sustainable competitive advantage for any firm requires that its resources be unique (Barney, 1991). Unfortunately, for the knowledge-based international new venture, knowledge is at least to some degree a public good. Its easy dissemination threatens a firm's rent-earning opportunity because knowledge may not remain unique for long. Thus, the ability to reproduce and move knowledge at nearly zero marginal cost, is a simultaneously beneficial (as noted in Element 3) and troublesome property. The international new venture must limit the use of its knowl-

edge by outsiders in many countries for it to have commercial value. In general, the use of such knowledge may be limited by four conditions.

First, if knowledge can be kept proprietary by direct means, such as patents, copyrights, or trade secrets, then the possessor of internalized valuable and rare knowledge may be able to prevent imitation and slow the development of substitutes. Yet patents and copyrights are ignored in some countries. Even where they are respected, release of patented knowledge into a market may advance competitors' production of alternative or even improved technology. Thus, knowledge that has potential commercial value is often best protected with secrecy.

Imperfect imitability is the second condition that may keep expropriable knowledge proprietary (Barney, 1991; Schoemaker, 1990). A unique organizational history, socially complex knowledge, and ambiguous causal relationships between knowledge and the competitive advantage it provides may all prevent imitation by competitors. New ventures often claim their unique management style and organizational culture provide advantages, perhaps because they embody all three characteristics of imperfect imitability. However, it should be noted that these same characteristics that block competitors' imitations may constrain the spread of such intangible assets as management style into multiple national cultures within the same organization. Yet where it can be accomplished, the inimitability of an international new venture is further reinforced.

Licensing is the third way outside use of a venture's knowledge may be limited. When knowledge is expected to retain its value for a lengthy period, a limit pricing strategy (i.e., low license fees) may be used to discourage competitors or to influence the rate and direction of knowledge dissemination. When demand is strong for expropriable knowledge, but its valuable life is believed to be short (e.g., some personal computer innovations), high fees may be used to extract maximum rents over a short period.

The fact that new ventures frequently use network governance structures (as discussed under Element 2) is the fourth condition that may limit the expropriation of venture knowledge. Although alliances with complementary organizations, such as manufacturers and downstream channels, risk expropriation (Teece, 1987), the network structure itself tends to control the risk. The relationships inherent in a network can have

high personal and economic value because network members usually share rents and the relationships contrast so starkly with the usual background of economic opportunism (Larson, 1992). Thus, venture network members are at least somewhat inhibited from usurping the venture's knowledge. For such relationships to exist in new ventures that cross national borders, logic suggests that founding teams must usually include internationally experienced business persons of various national origins.

Types of International New Ventures

The previous section described basic elements for all sustainable international new ventures, but the published papers that describe actual cases indicate that these elements manifest themselves in a variety of ways. Some ventures actively coordinate the transformation of resources from many parts of the world into outputs that are sold wherever they are most highly valued (McDougall & Oviatt, 1991). Other international new ventures are primarily exporters that add value by moving outputs from where they are to locations where they are needed (Ray, 1989). In the sections that follow, different types of international new ventures will be identified, some published examples will be considered briefly, and the variety of ways that the necessary and sufficient elements are manifested will be described.

Figure 2.3 shows that different types of international new ventures may be distinguished by the number of value chain activities that are coordinated and by the number of countries entered. The figure identifies particular types of firms at the extremes of the two continua, but mixed types certainly appear in between, and over time new ventures may change type by coordinating additional or fewer activities and by operating in additional or fewer countries. Although the figure uses Porter's (1985) value chain and is similar to Porter's (1986) depiction of international strategy for established MNEs, Figure 2.3 focuses on international new ventures only. In addition, the horizontal dimension of Figure 2.3 simply concerns the number of countries in which any value chain activities occur. Porter's diagram focuses on the degree of dispersion among activities when sales are assumed to be in many countries.

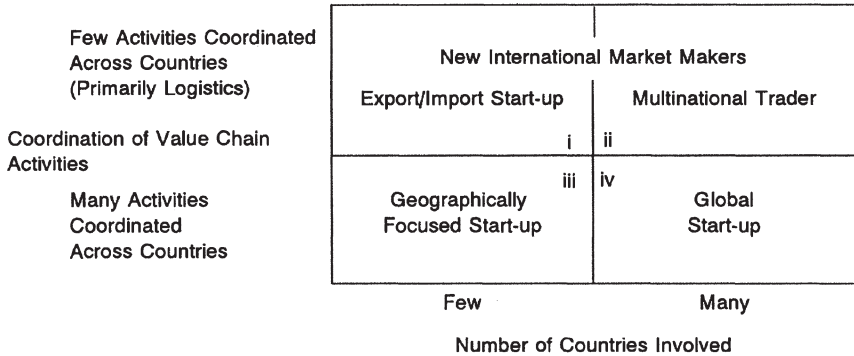


Figure 2.3 Types of International New Ventures

New International Market Makers (Figure 2.3, Quadrants i and ii)

New International Market Makers are an age-old type of firm. Importers and exporters profit by moving goods from nations where they are to nations where they are demanded. The most important value chain activities and, therefore, the ones most likely to be internalized are the systems and knowledge of inbound and outbound logistics. Transactions involving other activities tend to be governed by alternative structures. Direct investment in any country is typically kept at a minimum. The location advantage of such new ventures lies in their ability to discover imbalances of resources between countries and in creating markets where none existed. Sustained competitive advantage depends on (1) unusual abilities to spot and act on (sometimes by charging high fees) emerging opportunities before increased competition reduces profits in markets they had previously established, (2) knowledge of markets and suppliers, and (3) the ability to attract and maintain a loyal network of business associates. New International Market Makers may be either Export/Import Start-ups or Multinational Traders. Export/Import Start-ups focus on serving a few nations with which the entrepreneur is familiar. Multinational Traders serve an array of countries and are constantly scanning for trading opportunities where their networks are established or where they can quickly be set up.

Geographically Focused Start-Ups (Figure 2.3, Quadrant iii)

Geographically Focused Start-ups derive advantages by serving well the specialized needs of a particular region of the world through the use of foreign resources. They differ from the Multinational Trader in that they are geographically restricted to the location of the specialized need, and more than just the activities of inbound and outbound logistics are coordinated. They differ from the Export/Import Start-up only in the latter respect. In other words, competitive advantage is found in the coordination of multiple value chain activities, such as technological development, human resources, and production. Successful coordination may be inimitable because it is socially complex or involves tacit knowledge. That advantage may be further protected by a close and exclusive network of alliances in the geographical area served.

For example, in recent years, numerous entrepreneurs have established firms to profit from the transfer of Western management and economic know-how to formerly communist countries. *Profit* magazine was formed by two former editors of *Soldier of Fortune* magazine who were familiar with Eastern Europe (McDougall & Oviatt, 1991). It published practical advice for Eastern European entrepreneurs, and it was written by or about successful entrepreneurs in the United States who came from Eastern Europe. The first issue of the magazine was printed in the Czech Republic with English and Czech translations on facing pages and was distributed by a Czech entrepreneur who shared the profits. Additional versions were planned for other European countries emerging from centrally planned to market-driven economies. However, there was no strategy to move beyond that geographic region because their competitive advantage was in their unique knowledge of the Eastern European culture and their ability to establish a network there.

Global Start-Ups (Figure 2.3, Quadrant iv)

The phrase “Global Start-up” is used because it is a common term of trade (Mamis, 1989). It is the most radical manifestation of the interna-

tional new venture because it derives significant competitive advantage from extensive coordination among multiple organizational activities, the locations of which are geographically unlimited. Such firms not only respond to globalizing markets, but also proactively act on opportunities to acquire resources and sell outputs wherever in the World they have the greatest value.

Global Start-ups may be the most difficult international new ventures to develop because they require skills at both geographic and activity coordination. However, once successfully established, they appear to have the most sustainable competitive advantages due to a combination of historically unique, causally ambiguous, and socially complex inimitability with close network alliances in multiple countries. One global start-up we studied identified its “proprietary network” as its essential competitive advantage.

Another example was Momenta Corporation of Mountain View, California (Bhide, 1991; McDougall & Oviatt, 1991), a start-up in the emerging pen-based computer market. Its founders were from Cuba, Iran, Tanzania, and the United States. From its beginning in 1989, the founders wanted the venture to be global in its acquisition of inputs and in its target market. A global market would permit rapid growth and was believed to be necessary because potential competitors were global. Input acquisition was global because all the highest value (i.e., high quality to cost ratio) factors of production were not to be found in any single country. Thus, software design was conducted in the United States, hardware design in Germany, manufacturing in the Pacific Rim, and funding was received from Taiwan, Singapore, Europe, and the United States.

Conclusion

This article has identified, defined and described the emerging phenomenon of international new ventures, and has shown that some current theories of the MNE do not explain it well. Most important, it has integrated the traditional MNE concepts of internalization and location advantage with recent entrepreneurship research on alternative governance structures and with developments in strategic management on

the requirements for sustainable competitive advantage. The result is a rich yet parsimonious theoretical framework that explains the existence of international new ventures, and appears useful in describing their distinct types.

Our framework describes sustainable international new ventures as controlling assets, especially unique knowledge, that create value in more than one country. Their internationality occurs at inception largely because competitive forces preclude a successful domestic focus. Their emphasis on controlling rather than owning assets is due to resource scarcity that is common among new organizations.

The framework indicates that empirical investigators interested in international new ventures will find larger sample sizes in industries where international competition for unique knowledge is a dominant characteristic. The framework also identifies ways of protecting rents derived from such knowledge (i.e., direct patent protection, uncertain imitability, license fees, and network alliances), but empirical research is needed to understand the differential success of these mechanisms more completely.

This article is partially a response to Casson's (1985) call to include the role of the entrepreneur in explaining the dynamics of the MNE. The defensive role of network formation and, thus, the importance of social interaction by entrepreneurs is highlighted. Although networks certainly provide vital information, their function as a defense against the expropriation of tenuously defended valuable and rare knowledge needs more attention. How unusual are the intimate alliances that Larson (1992) describes, and what social and economic processes and conditions promote network building across national borders? Although entrepreneurship scholars have examined some of these issues within various countries (e.g., Aldrich et al., 1991), we are unaware of investigations that explicitly include a sample of international new ventures.

Considering a wider arena, it may be recognized that our emphasis on the importance of alternative governance structures for new ventures is consistent with the advice of some scholars that all organizations may find advantages in outsourcing (Quinn, Doorley, & Paquette, 1990) and impartitioning (Barreyre, 1988). The primary advantages are (1) increased concentration of limited resources on the primary internal sources of

competitive advantage and (2) the cost, quality and flexibility benefits that may be derived from using outside experts to supply all peripheral resources. However, the risks of dissipating competitive advantages, losing opportunities for learning, and becoming a “hollow corporation” are significant (Teece, 1987). The existence of international new ventures that must outsource many inputs provides a natural laboratory from which to gain insight into the results of this trade-off.

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3

Creative Tension: The Significance of Ben Oviatt's and Patricia McDougall's Article 'Toward a Theory of International New Ventures'

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Introduction

All scientific knowledge progresses through successive waves of evolution and revolution (Kuhn, 1962). Once a dominant scientific paradigm has been established, scientific effort tends to be shaped by this paradigm and to focus on testing, validating and refining the dominant framework. A cumulative, path-dependent process begins, during which research

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increasingly draws upon previous work within the same paradigm. Eventually, the limits of the dominant framework become evident, and challenging frameworks start to emerge that seek to address the weaknesses, gaps and contradictions of the dominant framework. If successful, such challenges may point researchers to entirely new directions and, occasionally, become dominant frameworks in their own right. Such challenges constitute the lifeblood of scientific progress because of the creative tension they generate. Creative tension fosters the discovery of new ideas.

The logic of scientific discovery describes quite well the creative tension generated by Oviatt and McDougall (1994) article in JIBS – ‘Toward a Theory of International New Ventures’ – and the research activity that it has helped to spark (see Popper, n.d.). Now that 10 years have passed since the publication of their article, it is clear that their contribution meets many of the characteristics of a major milestone in international business research. In my interpretation, perhaps the greatest value of their contribution lies within the creative tension that they generated in the field of international business studies by mounting a direct challenge to the established Process Theory of Internationalisation, and by highlighting the increasing prevalence of international new ventures. The Oviatt and McDougall (1994) article, and related work by the authors (McDougall & Oviatt, 2000; McDougall, Shane, & Oviatt, 1994; Oviatt & McDougall, 1995, 1997), has inspired the creation of a new journal dedicated to international entrepreneurship, the creation of a new dedicated doctoral workshop, as the publication of several journal special issues dedicated to international entrepreneurship. It is thus clear that the Oviatt and McDougall (1994) article is amply qualified to become the recipient of the JIBS Decade Award.

Evaluating the significance of any scientific contribution is difficult. In hindsight, any statement regarding any given work risks omitting important trends and even looking naïve. This is, nevertheless, what I have been asked to do regarding the Oviatt and McDougall contribution. In the following, therefore, I shall discuss how I perceive the Oviatt and McDougall challenge to received internationalisation frameworks, and what research issues I see arising from their contribution. A few remarks are in order here. First, because McDougall and Oviatt have refined their views in several contributions, alternating the order in which their names have been listed, I shall randomly alternate the order in which I list their names when referring to

the “Oviatt and McDougall” or “McDougall and Oviatt” challenge’. Second, again because they have developed their theme in several contributions, I shall often refer to a synthesis of their various works. Finally, because Oviatt and McDougall have themselves positioned their work primarily as a challenge to the received Process Theory of Internationalisation (PTI) (Johanson & Vahlne, 1977, 1990) and to the ‘innovation’, or ‘stages’ models of internationalisation (reviewed in, for example, Andersen, 1993), I shall base my discussion on a detailed comparison between McDougall and Oviatt’s ‘International New Ventures’ (INV) perspective and the ‘Process’ and ‘Innovation’ PTI. I shall try to make the case that the Oviatt and McDougall challenge to the PTI provides an important, self-sufficient complement to the PTI, because it mostly addresses aspects of the PTI that Johanson and Vahlne ignored, either explicitly or implicitly. Thus, in my view, an important aspect of the Oviatt and McDougall contribution is that they open a way towards building a more comprehensive theory of new firm internationalisation – one that addresses the initiation, implementation and outcomes of internationalisation processes in new and entrepreneurial firms. In conclusion, I shall try to outline what elements such a theory should eventually incorporate.

I structure my discussion as follows. First, I briefly outline the main assumptions and logic of the PTI and the INV frameworks, seeking to point out complementarities, similarities, points of contention, and pointers for future research. I shall focus particularly on the empirical scope of the two perspectives, on the treatment of enabling and constraining conditions, and on the effect of resource base international dispersion as well as resource fungibility. I shall also review some of the normative implications generated by the two frameworks. Then I shall discuss how I perceive the necessary building blocks of a unified theory of new venture internationalisation.

Initiation of Internationalisation and the Process of International Expansion

When assessing theoretical contributions, it is useful to keep in mind what they were originally intended to do. Where the scope of the INV and the PTI frameworks is concerned, the two frameworks appear

complementary, rather than contradictory. Yet areas of tension remain, particularly regarding the question of whether the path dependences are different for domestic and international growth.

The INV model focuses mostly on explaining how early and rapid internationalisation of new ventures is possible, whereas the focus of the PTI model is on the process of internationalisation itself, once started. Indeed, the main purpose of the Johanson and Vahlne model (1977, 1990) was to explain why the internationalisation process tended to unfold in an incremental and gradual fashion in Swedish firms in the mid-1970s (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). To explain the observed incremental pattern of the internationalisation process, they developed the well-known and widely used stage-change model of internationalisation. In this recursive model, stage variables (market knowledge and market commitment) interacted with change variables (commitment decisions and current activities) so as to produce an incremental, self-reinforcing, and path-dependent pattern of international expansion. In addition to helping explain observed internationalisation patterns in (mostly) Swedish case studies, the model also resonated with stage models of internationalisation, which described a gradual firm-level progress towards increasingly complex and resource-consuming modes of international activity, as well as towards increasingly distant target markets.

As pointed out by Oviatt and McDougall, the PTI model did not elaborate on how the process gets started, beyond noting that firms typically start the process as going concerns, often by reacting to unsolicited export orders. This is where they focused their main challenge, observing that many of the original assumptions of the PTI simply were not valid any more, because of a number of conditions that had changed since the mid-1970s:

- (1) the flow of information from foreign markets had been enhanced, reducing the psychic distance and promoting greater international integration between markets;
- (2) the cost of international travel and communication had been reduced and its efficiency enhanced, enhancing firms' ability to coordinate cross-border activities;

- (3) international managerial experience had become more widely available, enabling firms to quickly acquire such knowledge through recruitment and initial resource endowment; and
- (4) firms had become increasingly skilled at employing alternative governance mechanisms, enabling them to exploit their unique and valuable resources through mobilising and leveraging external resources across national borders.

These environmental conditions, they maintained, effectively rendered many of the core assumptions invalid, and created a need for an alternative framework.

One important aspect of the McDougall and McDougall challenge focused on the nature of path dependences instilled by internationalisation moves. Do firms tend to get locked into country-specific growth trajectories, as maintained by Johanson and Vahlne, or does an early foray into international markets lock the firm into an international, or global growth trajectory, as maintained by McDougall et al. (1994)? In this regard, important determinants appear to be the degree to which country markets are distinct from one another, and the degree to which lessons learned in one country environment can be leveraged for expansion in another country environment. One might predict that INVs should be more prevalent in sectors characterised by high degrees of international integration. Unfortunately, this hypothesis by Oviatt and McDougall (1997) remains to be verified empirically, owing to lack of archival data on firm internationalisation in different industry sectors. This issue carries important implications for both policy and managerial practice, so empirical work in this area is necessary. This appears to be an area where large, possibly government-sponsored, international research consortia might be useful.

As for the leveraging of internationalisation experience from one country (and firm) setting to another, the Oviatt and McDougall challenge prompted a refinement regarding the types of organisational knowledge and competences required for managing internationalisation. They treated the setting up of cross-border operations as an organisational skill, which can be learned, and which can therefore constitute a part of a firm's initial resource endowment. This distinction was later reflected in PTI's

distinction between ‘foreign market knowledge’ and ‘knowledge how to internationalise’ (Eriksson, Johansson, Majkgård, & Sharma, 1997), and subsequent research has suggested that this distinction is indeed relevant (Barkema, Bell, & Pennings, 1996; Barkema & Vermeulen, 1998; Delios & Henisz, 2003). From the perspective of INV research, however, a shortcoming of most received studies is that they have tended to focus on large multinationals. Therefore, a more detailed examination of the transferability, nature, and types of internationalisation experiences and competence appears necessary in the context of internationalising new ventures. Given that McDougall and Oviatt placed so much emphasis on the enabling effect of individual-level (pre-firm) internationalisation experience for early and rapid internationalisation, a more detailed examination of this issue appears necessary. Are some types of pre-firm internationalisation experience and competences more amenable than others to supporting early internationalisation? Do different firm and industry settings call for different types of initial endowment of internationalisation experience? And, indeed, what are the relevant organisational and individual-level competences for internationalisation? Are, for example, the competences required for market intelligence different from, say, entry-organising activities? Is there an optimal sequence in which these competences should be developed, or do different sequences lead to equifinal outcomes? A continued examination of these issues appears valuable, not only for theory, but also for practice (e.g., entrepreneurs and venture capitalists who seek to build effective management teams for international new ventures). Such an examination would also speak to the dynamic capability perspective (Helfat & Peteraf, 2003; Teece, Pisano, & Shuen, 1997), as early internationalisation clearly places considerable strain on the firm’s ability to dynamically adapt to, and take advantage of, radically different environments.

Constraining and Enabling Effects

The different objectives of the INV and PTI perspectives are reflected in the way the two frameworks treat theoretical influences: where one emphasises the constraining and restrictive nature of its theoretical influ-

ences, the other lays great emphasis on enabling effects. Also, this difference in emphasis appears to give rise to interesting research questions.

The purpose of the PTI model being to explain the gradual, constrained pattern of internationalisation, it reads very much as a theory of constraints. To explain the pattern, the original PTI model drew heavily both on the behavioural theory of the firm (Cyert & March, 1964), and on the theory of the growth of the firm (Penrose, 1959). The model assumed away individual strategic choice in stating that the relevant experience constraining the firm's strategic decisions is '... vested in the decisionmaking system (of the organisation): we do not deal explicitly with the individual decision-maker' (Johanson & Vahlne, 1977). Foreign market commitment decisions are made, not by individual managers, but through a decision process into which the various power coalitions of the organisation participate.¹ As it was considered difficult to obtain relevant information from foreign markets, and because the most relevant information could be gained only through first-hand experience, severe constraints were imposed on how quickly the firm was able to make commitments to foreign market activities. The process was further inhibited by the risk-averse posture of the firm's management, for whom the main concerns were long-term profitability and survival.

A key contribution of Oviatt and McDougall (1994) was their direct challenge to this risk-averse, constrained posture described by the PTI. International new ventures are possible, they stated, because entrepreneurs are able and willing to make strategic choices, as well as to accept the risks associated with an aggressive international expansion. In new ventures, firm-level knowledge cannot supersede individual-level knowledge by definition, because international new ventures are started without an organisational history.² That new ventures can choose to aggressively pursue international growth opportunities is made possible by their founding entrepreneurs' international competences, vision, and awareness of growth opportunities residing outside national borders. They are also motivated to do so because an overriding purpose of their internationalisation moves is positioning for value creation through cross-border resource combinations. This is a notion that is radically different from the home-base leveraging picture painted by the PTI, and it will be discussed more in detail below.

The contrast between emphasising firm-level *vs* individual-level knowledge naturally reflects the different empirical scopes of the two perspectives, but it also gives rise to interesting research questions. Is the enabling effect of individual entrepreneurial aspiration limited to young firms only, or can some firms resist the onset of the risk-averse posture that dominates the PTI? The position of Oviatt and McDougall appears to be that early internationalisation carries an international imprinting effect that will have a long-term influence on the firm's ability to grow internationally. There is some anecdotal evidence that such an effect may indeed exist: Autio, Sapienza, and Almeida (2000) reported a positive relationship between organisational youth at the time of internationalisation and subsequent international growth – an effect that appeared to be long-lasting. They attributed the effect to the notion that, in addition to liabilities of newness, young firms may also enjoy 'learning advantages of newness', which may enable young internationalisers to embrace an international identity more rapidly and completely than would be possible for older internationalisers. Further corroborating evidence of this kind would lend support to the McDougall and Oviatt position. Another interesting but little researched issue is under which conditions older internationalisers might be able to shed domestic rigidities so as to more fully embrace international growth opportunities. While the work by Oviatt and McDougall does not directly address this latter issue, their notion of the transferability of international managerial experience suggests that the international expansion of mature firms need not always be as constrained as the PTI appears to suggest. Systematic study of internationalisation strategies implemented in family firm succession situations might help further illuminate this issue.

By turning the spotlight on the role of the entrepreneur, Oviatt and McDougall (1994) opened an entirely new direction for international business research, that of international entrepreneurship. This is an exciting area that offers tremendous opportunities for researchers. For example, McDougall et al. (1994) evoked the importance of entrepreneurs' vision for the initiation of internationalisation, calling for a closer examination of entrepreneurs' cognition in shaping early internationalisation processes. Is it possible to empirically identify a 'born global' mental model for internationalisation moves, one that would trade opportunity

maximisation for risk minimisation? Another relatively little researched aspect of the Oviatt and McDougall challenge concerns the founding team's ability to access and mobilise resources through their cross-border knowledge networks, or their international social capital. Even though not explicitly expressed in these terms by McDougall et al. (1994), they nevertheless point to international social capital of the entrepreneur as an important facilitating condition for early internationalisation. There exists some anecdotal evidence in support of this contention (Arenius, 2002). Given the importance of social capital for resource access and mobilisation by entrepreneurial firms, more research is needed on the sources, nature, and effects of international social capital in international new ventures.

Resource Endowment, Resource Base Dispersion, and Firm's Value Creation Logic

An interesting research issue arises from the difference between the PTI and INV perspectives regarding the treatment of international resource commitments. The position taken by Oviatt and McDougall is that the knowledge intensity of the firm's resource endowment constitutes an important facilitating condition for INVs. According to them, knowledge, by virtue of its mobility, can be rapidly and flexibly combined with more fixed assets in foreign target markets. This notion is by no means without controversy. The Johanson and Vahlne (1977) model posits that the *less* there is a need to integrate firm's production knowledge with foreign market knowledge, the *greater* internationalisation steps the firm should be able to take. Others appear to emphasise the context-specific nature of knowledge, maintaining that knowledge created in one context is not easily transferred to other contexts (Delios & Beamish, 2001; Delios & Henisz, 2003). In the Kogut and Zander (1993) model, it is not knowledge intensity *per se*, but rather the characteristics of this knowledge (notably, codifiability, complexity and teachability), that determine the ease with which knowledge can be internationally transferred between firms. In their model, knowledge transferability is the key to determining whether alternative governance mechanisms can be used in cross-border entry. Thus, even though there is anecdotal evidence that

links firms' knowledge intensity with the speed of international expansion, there clearly is more to knowledge intensity than what the McDougall and Oviatt model articulates. This is, again, an issue that merits closer examination, given that INVs appear more prevalent in knowledge-intensive sectors, and given the extensive policy interest in the topic. Empirical studies are required to study not only the influence of firm's knowledge characteristics on the optimal choice of foreign entry modes, but also the effect of the structure and dynamic of the sector innovation system on new venture internationalisation. As knowledge-intensive firms are embedded in knowledge-creating systems, it appears reasonable to assume that the dynamics of such systems will influence opportunities for internationalisation. As implied by Oviatt and McDougall (1994), and elaborated in their subsequent work, an important related distinction is between the international diffusion of the outputs of knowledge-creating processes and the internal sourcing of inputs for such processes. More work is required to sort out sector effects (the effect of sector knowledge intensity and international integration) from the effects of knowledge characteristics.

A related, but little researched, issue raised by the Oviatt and McDougall contribution concerns the effect of resource fungibility on international expansion. Overall, the PTI model appears to assume a relatively high degree of asset specificity in foreign market commitments, meaning that resources invested into any given country market cannot be easily deployed elsewhere. The very definition of market commitment was based on a combination of commitment size and asset specificity of foreign market commitments. Even though the McDougall and Oviatt framework did not explicitly elaborate on these aspects, their model appears to assume a relatively high degree of resource fungibility, for both the firm's knowledge resources and its managerial experience. They posited that the risk associated with cross-border expansion is diminished because alternative governance mechanisms allow INVs to avoid internalising all resources required for foreign market activity, and they also suggested (as discussed above) that knowledge-intensive outputs can be easily redirected from one country to another. On the surface, it does seem reasonable to expect that more fungible resources (in terms of how easily they are transferred between country markets) would be associated

with greater speed of international expansion. This is a position that, nevertheless, has not been widely tested. If this assumption holds in empirical studies, then studies focusing on the determinants of international resource fungibility would yield important implications for practising managers, as they could, conceivably, manipulate their resource bases so as to reduce the overall risks associated with internationalisation moves. It therefore seems important to study the determinants of resource fungibility in international expansion, as well as the facilitating effects of resource fungibility for early initiation, as well as the subsequent expansion, of cross-border expansion.

In addition to resource fungibility, both the PTI and INV make assumptions about the resource base on which the firms draw to create value. In the PTI model, the implicit assumption is that all of the firm's technology-creating resources are concentrated in its home base. The firm then uses these resources to generate the value-added outputs that can be exported and, eventually, manufactured in foreign locations. Thus, the mode resembles the 'home-base leveraging' mode of internationalisation, as defined by Kuemmerle (2002). All or most of the value-creating elements of the firm's product or service offering are generated in the firm's home base, and the international dimension of the firm's activities is concerned mainly with the international diffusion of its offering. This the firm does by discovering and subsequently satisfying customer needs in overseas markets. The nature of opportunity, thus, is very much Kirznerian in character: opportunities are created in foreign markets without the active involvement of the firm itself.

In the Oviatt and McDougall model, the value creation logic is quite different. In their scenario, the firm operates in an internationally dispersed resource base. The value creation of the firm is based on cross-border combination of valuable resources. Thus, the firm needs to internationalise in order to make value creation possible, not in order to disseminate its outputs. This reflects a Schumpeterian, supply-push approach to value creation, in which the creation of temporal monopolistic advantages through technological advances is central. The competitive advantage of the firm being based on cross-border resource combinations, international new ventures emerge as fundamentally different from domestic ventures. This competitive advantage is sustained either through the enforcement of

IPR protection devices or through the continuous and rapid upgrading of the firm's knowledge outputs. In this 'resource-base extension' logic (Kuemmerle, 2002), the firm's resource regeneration ability is preconditioned to an international positioning.

The application of a Schumpeterian approach to internationalisation represents a key aspect of the Oviatt and McDougall challenge, and the implications of this aspect of their work probably remain to be fully articulated. Nevertheless, there is growing evidence that international new ventures, by virtue of their international presence, may indeed enjoy the kind of knowledge generation advantages as articulated by Oviatt and McDougall (Barkema & Vermeulen, 1998; Yli-Renko, Autio, & Tontti, 2002; Zahra, Ireland, & Hitt, 2000). Zahra et al. reported data showing that foreign market entries were associated with broader and deeper technological learning. Barkema et al. suggested a positive relationship between international diversity and technological learning. Yli-Renko et al. reported a positive association between the firm's international social capital and its knowledge intensity. The case studies reported by Kuemmerle (1999) even suggested that new ventures indeed tend to begin their internationalisation processes in a resource-base extension mode, which represents an important difference from the pattern assumed in the PTI. Empirical findings such as these suggest rich research opportunities for those interested in international entrepreneurship: under which conditions can the knowledge-creation advantages resulting from international exposure be maximised? Can these advantages themselves be used as a boost to internationalisation? And are the observed knowledge creation effects subject to sector-specific conditions, such as the structure of the sector innovation system? The reverse effect of internationalisation on technology generation is an under-studied area that merits greater research attention.

The idea that the competitive advantage of international new ventures may be based on the establishment and exploitation of cross-border positions represents a radical new insight that considerably extends the scope of internationalisation studies. One implication of their position is that there is more to internationalisation than the addition of 'liabilities of foreignness' to compound the effects of 'liabilities of newness' (Stinchcombe, 1965) that plague new ventures: by establishing an international position early on, new ventures may also enjoy 'internationalisation competitive advantages',

which may help offset the various liabilities and give rise to long-term competitive advantage. Thus, internationalisation may not always be an uphill struggle; it may also constitute a crucial condition underpinning the firm's *raison d'être*. Indeed, the framework laid out by Oviatt and McDougall (1994) almost reads like a theory of the firm, applied in the context of international new ventures. Seen in this way, the model represents a radical departure from received international theories, virtually all of which are confined to explaining aspects of internationalisation itself. What the McDougall and Oviatt challenge does is to turn this position upside down: internationalisation is no more treated merely as an outcome, but rather as a condition for value creation. This is an exciting perspective that has not yet received the attention that it merits. Specifically, the work by Oviatt and McDougall, as well as other research inspired by their work, suggests three distinct potential sources of 'internationalisation competitive advantage':

- (1) international resource base asymmetries;
- (2) knowledge regeneration advantages arising from international operations; and
- (3) the dynamic capability effect of early internationalisation.

The first potential source of internationalisation competitive advantage may arise from international resource-base asymmetries. As pointed out by Oviatt and McDougall, many INVs internationalise so as to get access to value-creating resources across national borders (see also Kuemmerle, 2002). If value-creating resources are unevenly distributed across nations, then international firms may be able to establish a competitive advantage by selectively accessing and combining such resources for value creation. While this advantage is not necessarily limited to new ventures, early movers in emerging markets may pre-empt competition by being the first to establish and exploit such advantages.

The second potential source of internationalisation competitive advantage may arise from knowledge regeneration advantages that arise from the firm's exposure to international diversity. Zahra et al. (2000), for example, reported significant technological learning advantages associated with internationalisation. This type of advantage may be particularly relevant in knowledge-intensive sectors. Again, while this advantage is

not necessarily limited to new ventures only, it may be particularly important for knowledge-intensive new ventures, which seek to distinguish themselves from their competition.

The third potential source of internationalisation competitive advantage concerns the dynamic capability effect of early internationalisation (Autio et al., 2000). It may be that the act of early internationalisation may help root a more innovative and dynamic strategic posture on the new venture, as well as strengthen its organising abilities. These effects may cause the firm to pursue international, as well as domestic, growth opportunities more proactively, and they may also make the firm better equipped to take advantage of such opportunities.

Thus far, most internationalisation theories have tended to borrow from received organisational and economic theories to explain aspects of internationalisation. There has been relatively little work to exploit the context provided by internationalisation for the generation of new theoretical insight that informs organisational and strategic theories. More work, both theoretical and empirical, is therefore required to better understand the sources and effects of the ‘internationalisation competitive advantage’, as well as to articulate the practitioner implications of this potential effect.

Development of Normative Implications

Much has been made of the apparent contrast between the two perspectives on internationalisation, and much of the apparent controversy has tended to focus on the effects of (and implications of) age at internationalisation. Eriksson et al. (1997) argued that several small risks taken during internationalisation will be better than one ‘leapfrogging’ risk, because firms are more likely to survive on small than large mistakes. Also, because firms typically tend to accumulate resources over time, survival chances are more likely to be enhanced if the internationalisation process is started late. McDougall et al. (1994), for their part, suggested that early internationalisation may be not only an opportunity but also a necessity to ensure chances for growth, because opportunity windows are short in dynamic sectors. However, the fact remains that neither of the two perspectives fully develops normative implications regarding the timing of

internationalisation. In fact, Johanson and Vahlne (1977, 1990) explicitly excluded this aspect from their theory development, and the Oviatt and McDougall challenge was concerned primarily with explaining the phenomenon of INVs, rather than the effective management of them. For this reason, I believe that a gap remains in terms of the development of normative implications for INVs, as well as in the development of practitioner-oriented planning frameworks for implementing early and rapid internationalisation. The development of such frameworks, of course, is contingent upon the elaboration of new theoretical insight into questions such as those discussed above.

In terms of normative implications, I believe that too much attention has been focused on arguing whether or not early and rapid internationalisation is better than late and incremental internationalisation. This discussion has been constrained by the fact that neither the PTI model, nor the McDougall and Oviatt perspective, has explicitly incorporated firm-level outcomes of internationalisation processes in their frameworks, beyond explicitly assuming that internationalisation is necessary for international new venture growth in some situations at least. I believe that the study of international new ventures could be greatly enriched by the theoretical consideration of such outcomes. The work by McDougall and Oviatt, particularly their notion that internationalisation can become a source of competitive advantage for international new ventures, provides some pointers to how this could be done. In addition to maintaining that internationalisation can become a source of competitive advantage, they also suggest that young internationalisers, by virtue of the absence of domestic rigidity, may be able to establish that advantage more fully and rapidly. While such an advantage may lead to positive performance outcomes in the long run, it may also be true that the PTI concern for survival is simultaneously true: early internationalisation may be tough medicine, and it may also kill the internationalising firm. Thus, early internationalisation may have opposite effects for growth and survival in young firms. This is something that should be explored in greater detail, using the kinds of longitudinal dataset that Oviatt and McDougall (1997) called for. Even though survival and growth has been a central theme in internationalisation research (Werner, 2002), a closer examination of received studies reveals that the study of these effects is over-

whelmingly confined to the survival and growth of multinational firms' international operations (e.g., Barkema et al., 1996; Barkema, Shenkar, Vermeulen, & Bell, 1997; Delios & Henisz, 2003).

A potentially promising area for the development of normative implications concerns the two-way relationship between early internationalisation and firm dynamic capability. Both the international new ventures perspective and PTI address processes that impact on the firm's ability to dynamically adjust to, and take advantage of, international opportunities, processes that are central to new venture survival and growth in dynamic environments. However, there is very little empirical or theoretical research to take advantage of the context provided by early internationalisation to study the development of dynamic capabilities in firms. This is an area that also carries the potential to inform received organisational theories.

Discussion and Conclusions

The work by Oviatt and McDougall has opened up numerous avenues for future research, both theoretical and empirical. Clearly, researchers are only beginning to exploit the numerous exciting opportunities. As stated above, I tend to see their contribution as an important, self-sufficient complement to the PTI, one that adds tremendous new insight into the phenomenon of internationalisation in general and new venture internationalisation in particular. From a theoretical perspective, their contribution raises the question of whether a new, fuller theory of new firm internationalisation might be possible, one that addresses both the initiation and the process of internationalisation. A complete theoretical model would also explicitly address the outcomes of internationalisation. It remains to be seen whether this is eventually possible. Nevertheless, it is clear from the literature review that important advances have been achieved in internationalisation theories, thanks to the creative tension introduced by McDougall and Oviatt. These advances have resulted in a richer understanding both of the process of internationalisation, and of the initiation of it. For the benefit of the reader, I have compiled Table 3.1, which lists the central theoretical dimensions of the PTI and INV models,

Table 3.1 Comparison of the PTI and INV theoretical dimensions and logic

<i>Theoretical dimension</i>	<i>PTI</i>	<i>INV</i>	<i>Theoretical treatment</i>
Underlying theories	Behavioural theory, theory of the growth of the firm	Entrepreneurship, resource-based view of the firm, governance theories	
Generation of normative implications	Moderate	Moderate	
Scope	Internationalisation process	Initiation of internationalisation, early internationalisation process	Dependent variable
Internationalisation strategic posture	Reactive, reacting to unsolicited export orders	Proactive, opportunity-seeking	Predictor variable
Nature of opportunity	Market demand	Supply push	Predictor variable
Firm objective	Survival, long-term profitability	Value creation, growth	Predictor variable
Resource access and control	Internalisation, internal development	Selective ownership, mobilised through networks	Predictor variable
Access to foreign market information	Constrained information channels, market information accumulates through market commitment	Market information easily accessible through various channels	Predictor variable
Fungibility of foreign market assets	Foreign market investments tend to be asset specific, not easily reallocated	Resource fungibility assumed for resources committed to foreign market activities	Predictor variable
Speed of foreign market commitments	Commitment decisions are slow because of the need to integrate experiential market knowledge with firm knowledge	Mobile knowledge resources can be rapidly combined with fixed assets in target markets	Predictor variable

(continued)

Table 3.1 (continued)

<i>Theoretical dimension</i>	<i>PTI</i>	<i>INV</i>	<i>Theoretical treatment</i>
Value creation logic	(Implicit) Value-creating assets are concentrated in the domestic country	Value creation based on cross-border resource combinations	Predictor and Dependent
Nature of path dependency	Each market entry creates a market-specific path dependency for growth	Early internationalisation instils a path dependency for international growth	Predictor and Dependent
Degree of environmental dynamism	Stable, moderate dynamism	(Predominantly) Dynamic high-technology sectors	Predictor variable
Relationship between individual and firm knowledge	Firm experience supersedes individual experience	Individual experience and entrepreneurial vision drive international commitment decisions	Predictor variable
Locus of decision-making	Firm's decision-making system	Entrepreneur(s)	Predictor variable
Resource endowment at the time of internationalisation	Firm is a going concern whose resources and reservoir of experiential knowledge have been shaped by domestic experience (domestic imprinting)	Firm's experiential knowledge is co-created with foreign market experience (international imprinting)	Predictor variable
Criteria for choosing foreign markets for entry	Manageability: minimise difference between existing scope of activity and the new market entry	Opportunity: maximise the size of market potential by selecting the market that offers the greatest growth potential	Predictor variable

Nature of opportunity window	Long, durable	Short, transient	Predictor variable
Nature of competition	Against local players in the foreign market	Against global players	Predictor variable
Integration of country markets	Country markets distinct, separated by high barriers to entry	Significant international integration between country markets	Predictor variable
Importance of management's pre-firm experience	Does not matter because firm collective experience supersedes individual experience	Crucial factor for early and rapid internationalisation	Predictor variable
Size of internationalisation steps	Small	Mostly large	Dependent variable
Effect of rapid market change	Slows down internationalisation because of rapid obsolescence of firm knowledge	Speeds up internationalisation because of the need to move fast to seize opportunity	Predictor variable
Selection of entry modes	Sequential progression from low-control modes to high-control modes	No predetermined sequence, but firms tend to prefer alternative governance mechanisms, such as alliances	Dependent variable
Importance of resource size	Large resources are important to accommodate resource-consuming internationalisation moves	The quality of resources, sustainable resource distinctiveness in particular, is more important than the size of initial resource allocation	Predictor variable

(continued)

Table 3.1 (continued)

<i>Theoretical dimension</i>	<i>PTI</i>	<i>INV</i>	<i>Theoretical treatment</i>
International dispersion of value-creating resources	Value-creating resources concentrated in the domestic base	Value-creating resources dispersed across national borders	Predictor variable
Implication for growth	(Implicit) Growth causes the firm to internationalise	Internationalisation is necessary for growth	Dependent variable
Implication for survival	(Implicit) Late internationalisers are more likely to survive internationalisation moves than early internationalisers	In internationally integrated markets, internationalisation may constitute a necessary condition for survival	Dependent variable

and briefly summarises how the two frameworks treat each of the dimensions. The comparison reveals both agreements and disagreements, and a detailed examination of these may help develop new theoretical insights.

Owing to increasing economic integration between countries and regions, internationalisation touches increasing numbers of firms at an increasingly young age. This is a trend that is likely to continue, and it presents an important challenge, to which researchers have to respond. By being early to respond to challenge, Patricia McDougall and Ben Oviatt have demonstrated remarkable entrepreneurial alertness. They should be congratulated for their influential and inspiring contribution.

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Notes

1. Both of these assumptions may, in fact, reflect the highly participative and collective decision process of Swedish firms, in which decisions emerge in seemingly endless discussions in which it is often difficult for an outsider to see when a final decision has been reached.
2. Corporate spin-offs are different in this regard.

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Part II

Factors Enabling Internationalization Under Resource Constraints



4

The Survival of International New Ventures

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Introduction

International new ventures (INVs) play an important role in today's global economy (Shrader, Oviatt, & McDougall, 2000; Zahra, 2005). An INV is 'a business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries' (Oviatt & McDougall, 1994: 49). An INV quickly

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establishes an operational presence in more than one country, becoming multinational rather than international in its business activities. Given that INVs transfer technologies and the best managerial processes across international borders, create jobs and contribute to economic and technological progress, researchers have studied the factors that promote their emergence (Oviatt & McDougall, 1994) and influence their performance (Autio, Sapienza, & Almeida, 2000; Zahra, Ireland, & Hitt, 2000).

Like other firms that venture into foreign territory, INVs are disadvantaged relative to their domestic competitors, and suffer a 'liability of foreignness' (Zaheer & Mosakowski, 1997). Younger companies such as INVs also face disadvantages in competing with established firms, often experiencing a 'liability of newness' (Stinchcome, 1965). Consequently, INVs usually suffer two sets of liabilities (newness and foreignness), challenging their survival (Zahra, 2005). Research suggests that the probability of failure is highest in a firm's early years, but that it usually declines as the firm ages (Caves, 1998; Klepper, 2002; Zimmerman & Zeitz, 2002). This risk varies by organizational form. Yet, currently, we do not know much about the survival rates of INVs where the liabilities of newness and foreignness could significantly undermine their viability and increase the odds of their failure. Moreover, the variables that determine INVs' survival are not well understood (Zahra & George, 2002). This has led researchers to call for studies that document the rates of INVs' survival and the variables that influence them (e.g., Sapienza, Autio, George, & Zahra, 2006; Zahra et al., 2000).

Several factors suggest that survival, rather than profitability, is an important question in INV research. Notably, the start-up stage is rife with uncertainty (Shepherd & Douglas, 2000), pressuring INVs to focus on building their businesses and establishing their market positions. Thus profitability may not be a good indicator of performance (Baum, Locke, & Smith, 2001; Brüderl, Preisendörfer, & Ziegler, 1992). This is

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especially true for new firms created in emerging industries, where they have to invest heavily to reach potential customers and educate them about their products (Porter, 1980). Further, though the gestation period before profits accrue is long for new firms in some industries (DeCarolis & Deeds, 1999; Eliasson & Eliasson, 1997), there is both theory (Jovanovic, 1982) and empirical evidence supporting a positive relationship between survival and a firm's later profit and market share performance (Evans, 1987a, 1987b).

One way to establish the efficacy of INVs is to compare their survival odds with other modes of foreign market entry. For decades, researchers have adopted a 'stage' perspective of international expansion, positing that the multinational enterprise (MNE) is an established, divisionalized company that initially grows large in its domestic markets before going multinational. This expansion starts with exporting, proceeds to licensing, and then evolves into acquisitions and greenfield investments (Czinkota, Ronkainen, & Moffett, 1996; Vernon, 1966). This approach encourages the accumulation of experience and valuable knowledge as firms internationalize their operations (Johanson & Vahlne, 1977); this knowledge and experience improve the odds of organizational survival and success in foreign markets.

Little evidence currently exists regarding the likelihood of INVs' survival relative to firms that follow the sequential approach to internationalization (Sapienza et al., 2006; Zahra, 2005). The survival of established firms that adopt the sequential approach has been debated for years (e.g., Li, 1995; Li & Guisinger, 1991; Mitchell & Singh, 1996; Shaver, 1998; Shaver, Mitchell, & Yeung, 1997), generating contradictory findings. Given that the INVs and sequential approaches to foreign market entry have advantages and disadvantages of their own, it is important to establish how these two approaches vary in their survival probabilities. This is the issue addressed in this study.

To accomplish our objective, we use data on foreign direct investment (FDI) into the UK during the period 1991–1996. We posit that the choice between pursuing an INV and the sequential approach to FDI is a strategic one, reflecting firms' resources and industry conditions. The results support our theoretical expectations derived from the strategic choice approach (Andrews, 1971; Ansoff, 1965; Porter, 1980) to the

selection of foreign entry mode. Applying a direct cross-sectional estimation, we find that INVs are significantly less likely to survive than those units created by established firms. Our analyses reveal that, once firms' strategic choice is explicitly incorporated into the model (i.e., self-selection is considered in the analysis), the lower probability of survival associated with INVs disappears.

The following section of the paper compares the INV and sequential approaches to internationalization. Using the strategic choice model, we conclude this section with the study's hypotheses on INVs' survival. Once this goal is accomplished, we present the sample used to test the hypotheses and the analyses we conducted. The final section of the paper discusses the results and highlights their managerial and scholarly implications.

Theory and Hypotheses

The sequential approach to FDI has dominated the international business literature throughout the 1970s and 1980s (Dunning, 1981; Hennart, 1982; Hood & Young, 1979; Johanson & Vahlne, 1977). This approach has suggested that firms first established themselves in their domestic markets before venturing internationally and pursuing multinational activity. With the growing integration of world markets and global sourcing, however, some smaller firms have become MNEs (Kotabe, 1998; Murray & Kotabe, 1999), playing significant roles in outward investments from many countries by capitalizing on their relationships and networks in foreign markets (Kohn, 1997). These firms have also established strong multinational networks, gaining the benefits of both the firms and networks. By developing a 'domestic' presence in several countries, companies can also overcome the unwillingness of buyers to source internationally (Thorelli & Glowacka, 1995). This approach can be particularly valuable when institutional environments do not support the business activities of foreign firms, as noted by institutional theorists (Doh, Teegen, & Mudambi, 2004; Ramamurti, 2001). Following institutional theory, those new ventures that adopt the traditional sequential approach are likely to avoid missteps in dealing with key industry players, and enjoy credibility and legitimacy.

An INV succeeds by replacing international market transactions with intra-firm operations that involve running a foreign subsidiary or division and undertaking intra-firm exports, rather than exporting goods or services to a foreign buyer. Though INVs have recently attracted interest in the literature (Ray, 1989), the concept itself is not new. Over a century ago, the free-standing company was an important form of an MNE. Such a company was headquartered in a major financial center, maintaining purely overseas operations while undertaking no domestic production activities at all. These firms were INVs that were simultaneously established in more than one country to conduct multinational operations as indicated by the export of technology from their headquarters, and of product and service outputs from their overseas operations. These firms also derived substantial competitive advantages through the linkages between their headquarters' country and other host countries (Casson, 1994). However, this form of organization declined after the Second World War, experiencing a resurgence only in the 1980s. Recent global business conditions have made the INV form of organization competitive (Bloodgood, Sapienza, & Almeida, 1996; Oviatt & McDougall, 1994).

INVs and the traditional free-standing MNEs have several common characteristics. Both internalize some transactions, generate advantage(s) over domestic rivals, overcome shortfalls of financial resources by implementing alternative governance structures, and possess unique defensible assets. Both types of firm also internalize transactions involving the flow of information and technology, leveraging their home country advantages to gain ascendancy over domestic rivals while using their networks to reduce the transaction costs involved in monitoring their operations in foreign markets. These organizations also control unique assets, such as location-specific knowledge, that generate first-mover advantages.¹

Strategy Choice

However, the most important aspect of INVs is that their organizational form is a conscious value-maximizing strategic choice by their management. INVs, like their free-standing forebears, are not a random group of

firms. Rather, they are firms for which the benefits and advantages associated with their organizational strategy outweigh the joint liabilities of newness and foreignness. Consequently, the strategy choice of the firm is determined by its particular set of resources and competencies, and is therefore endogenous. This implies that, on average, those firms that choose an INV strategy do so because it is the best strategy for their particular situation, *and* the choice of any other organizational strategy would have a less beneficial outcome.

Our discussion suggests that both INVs and freestanding MNEs have advantages of their own. Still, INVs may experience unique challenges that help define the resources that are essential to their survival. Though multinationality gives INVs a sustainable advantage, it also strains their communications and monitoring systems (Casson, 1998). INVs also have to quickly overcome several cultural issues that are not amenable to easy technological solutions (Casson, 1997b). Finally, the problems that entrepreneurs face in managing their operations (Busenitz & Barney, 1997) are likely to appear sooner in INVs, taxing these firms' ability to sustain their competitive advantage. Entrepreneurs frequently experience serious shortages of resources of different types and find it difficult to break into established business networks and existing distribution channels at home or in foreign markets.

Crucial to INVs' survival is the protection of their vital assets such as know-how, products and processes, without which their operations are impossible. Going beyond the firm's boundaries can help in assembling these resources, but it increases the possibilities for opportunism by the partners. One way to reduce (though not eliminate) opportunism would be to internalize the control of all such vital assets (Williamson, 1975), but such an approach would require substantial financial assets. Therefore some INVs attempt to reduce the risks of opportunism and obtain access to financial resources by joining networks (Casson, 1997a; Sanchez & Perez, 1998) and forming alliances (Coombs, Mudambi, & Deeds, 2006) in order to develop unique assets that are difficult to imitate (e.g., tacit knowledge, relational assets). Reducing the potential for imitability has been associated with growth in the international context (Autio et al., 2000).

The sequential approach to FDI has merits and shortcomings of its own. Strategic choice theorists suggest that the use of this approach allows the firm to accumulate the resources necessary for international expansion, alleviating pressures on the firm's resources. It also enables managers to learn from their various international moves and apply this knowledge in pursuing additional international activities. However, the firm can miss opportunities as it waits to expand its resource pool. Late entry into foreign markets (e.g., after many other foreign firms have entered and established strong positions) might also raise the cost of operations and intensify retaliation by established first movers (Mitchell, Shaver, & Yeung, 1994). These variables can significantly reduce the odds of survival for foreign entrants that use the sequential approach.

The risks associated with the sequential approach to FDI can be formalized within an options framework (Kim, Hwang, & Burgers, 1993). The sequential approach is based on the firm pursuing domestic growth until it reaches a level of maturity that is sufficient to support multinational activity. During this period of purely domestic growth the firm does not invest in the options of multinational diversification that create value by increasing '*managerial discretion* to respond profitably to the realization of uncertain events' (Kogut & Kulatilaka, 1994; italics in original). The value of these forgone options therefore constitutes a disadvantage borne by firms adopting the sequential approach to FDI, possibly offsetting the benefits to be gained from resource accumulation.

The INV approach is associated with rapid entry into international operations by a start-up (Autio et al., 2000), whereas the sequential approach is associated with a more gradual approach. Our discussion has outlined the advantages and disadvantages of both approaches. While it appears that INVs might face substantial handicaps, we have argued that firms with the appropriate resources and competencies can overcome such challenges. Further, we expect firms to select the INV or sequential approach based on their specific competencies. If this is true, then INVs should not experience higher rates of failure than other firms. These observations lead to the following hypothesis:

Hypothesis 1: After endogenizing strategy choice, an INV strategy has a probability of failure that is no greater than that for a sequential FDI strategy.

A rejection of Hypothesis 1 implies that the probability of an INV's failure is different from sequential FDI. If significant differences in survival probabilities exist, then the INV strategy would provide a significant competitive advantage (or disadvantage) for firms using this approach.

Firm Survival

The strategic choice approach would suggest that the use of a given mode of entry depends on a combination of the external environment and company characteristics (Hamel & Prahalad, 1994). Given that a firm's survival in foreign markets is determined by several factors other than its competitive strategy, there is a need to control for industry and firm characteristics (Audretsch & Mahmood, 1995).

Industry Characteristics

Consistent with the strategic choice approach, research suggests that industry characteristics influence the performance of *all* foreign entrants (Yiu & Makino, 2002). Industry variables also influence a firm's success and survival in significant ways (Porter, 1980; Shepherd & Douglas, 2000; Zimmerman & Zeitz, 2002). Industry growth, penetration by foreign firms and seller concentration can significantly influence a firm's survival in international markets (Driffield & Munday, 1997; Hennart & Park, 1993). Entry of foreign competitors usually intensifies rivalry in an industry (Porter, 1986), reducing new foreign entrants' ability to acquire market shares that ensure their survival.

High industry growth rates create opportunities for new foreign entrants to position themselves in chosen niches that have been overlooked by their rivals (Porter, 1980), possibly increasing foreign entrants' odds of survival. High-growth industries are often resource-rich environ-

ments that support growth and profitability, lowering the probability of organizational failure. Industry concentration, however, can limit new entrants' ability to penetrate foreign markets (Porter, 1980), also reducing the odds of survival for foreign entrants. In a highly concentrated industry, foreign entrants have to take market share away from established companies that have the resources to counter-attack them (Scherer, 1984), possibly reducing the odds of survival.

The extent to which the industry is knowledge-based can also influence survival (Audretsch, 1995). These industries are characterized by high R&D investments, and focus on innovation as the source of competitive advantage (Autio et al., 2000). A high level of knowledge intensity significantly increases the environmental uncertainty arising from rapid technological innovation and change (Oviatt & McDougall, 1994), lowering the probability of foreign entrants' survival. Foreign entrants may not have the local complementary resources needed to develop and commercialize new products. Foreign entrants that have radically new products also need to invest heavily in developing the market and educating potential customers about their products, raising the odds of failure.

As our discussion makes clear, industry characteristics are likely to challenge firms and their managers. However, the effects of these conditions frequently impact more heavily on resource-constrained INVs (Zahra & George, 2002). Consequently, industry characteristics are likely to moderate the effects of the INV strategy. These observations suggest the following hypotheses:

Hypothesis 2a: A higher level of industry growth increases the probability of survival for a new foreign entrant.

Hypothesis 2b: A higher level of existing foreign penetration of an industry reduces the probability of survival for a new foreign entrant.

Hypothesis 2c: A higher level of existing seller concentration reduces the probability of survival for a new foreign entrant.

Hypothesis 2d: A higher level of industry knowledge intensity reduces the probability of survival for a new foreign entrant.

Firm Characteristics

The strategic choice approach also suggests that, besides industry variables, firm characteristics can also significantly affect the presence of all foreign entrants and their odds of survival. These characteristics include technological competence, size, experience in the international arena, the level of government support received, and the mode of entry used (e.g., Autio et al., 2000; Li, 1995; Lu & Beamish, 2001; McCloughan & Stone, 1998).

Technological competencies are important for success in international markets (Cantwell, 1989). These competencies, which reflect companies' prowess and well-established strength in given technologies (Teece, 1998), enable new firms to develop and introduce new products and capture significant shares in their markets or join beneficial alliances that increase the probability of their survival. Technological competencies are important intangible assets that are difficult for other companies to emulate (Lu & Beamish, 2001), significantly reducing rivals' ability to undo firms' competitive advantage. Therefore strong technological competencies increase the odds of firms' survival. This is more likely to be the case in international markets where strong technological competencies could be leveraged in building strong market presence (Cantwell, 1989; Cantwell & Mudambi, 2005).

Company size also has important implications for survival (Audretsch, 1995; Shaver et al., 1997). Large firm size implies the existence of slack resources that enable the firm to get over the early lean period of its operations, increasing larger firms' odds of survival. Large firm size also serves as a positive signal that can allay the fears and concerns of potential customers, lowering concerns about companies' liability of newness (Zimmerman & Zeitz, 2002). Consequently, these factors can reduce the risks of new entrants' failure in foreign markets.

International experience can also increase a foreign entrant's probability of survival. International experience enables managers to learn about the challenges associated with different strategic moves in foreign markets (Mitchell, 1994). This experience increases the chances of success in international markets (e.g., Smith, Peterson, & Wang, 1996). International

experience is also useful in identifying and exploiting new opportunities and building beneficial linkages in foreign markets (Zahra & George, 2002), improving the odds of survival.

Receiving government assistance also increases the likelihood that a company gets 'over the hump' in entering foreign markets and survives. Several countries have used subsidies to promote new ventures' exporting and other international activities (Mudambi, 1998; Wren, 1996). Companies that receive government subsidies and other types of support are better positioned than their rivals to overcome the liability of newness, thus improving the odds of survival (Mudambi, 1998).

The mode of entry also may influence the likelihood of survival. Some studies report that greenfield entrants have a higher probability of survival than acquisition entrants (Li, 1995; Li & Guisinger, 1991). Acquisitions often demand the integration of the new business into the existing organization. Integration efforts are usually fraught with uncertainties because of the significant differences that exist in organizational cultures, systems and structures; these uncertainties can lower the odds of success.

This discussion suggests that firm characteristics are likely to moderate the effects of the INV strategy, leading to the following hypotheses:

Hypothesis 3a: A foreign entrant with a higher level of technological competence has a higher probability of survival.

Hypothesis 3b: A larger foreign entrant has a higher probability of survival.

Hypothesis 3c: A foreign entrant with a higher level of international experience has a higher probability of survival.

Hypothesis 3d: A foreign entrant with a higher level of government support has a higher probability of survival.

Hypothesis 3e: A foreign entrant that enters using a greenfield strategy has a higher probability of survival.

Method

To test our hypotheses, we used data that covered both the industry and firm levels of the analysis. Industry level data were drawn at the three-digit level based on the UK Standard Industrial Classification System (Office for National Statistics, 1992). They were taken from the *Report on the Census of Production*, published by the UK Central Statistical Office (now part of the Office of National Statistics), for various years. Firm-level data were derived from a large 1992 mail survey of FDI into the UK, followed by telephone and field interviews. The sampling frame was constructed using a comprehensive list of investments in the UK by non-UK firms during 1991. We obtained this information from the Department of Trade and Industry and its inward investment agency, the Invest in Britain Bureau (now called Invest-UK), supplemented with data from Dun & Bradstreet indexes (Dun & Bradstreet, 1992a, 1992b). The sampling frame contained 665 firms with contact information, operating in 28 SIC (1992) three-digit industries. Portfolio investments were deleted. We also excluded firms for which separate data for the parent firm or industry classification were unavailable. The final usable sample frame consisted of 616 firms that operated in 23 three-digit industries. The survival period examined was 1991–1996.

The survey was mailed out in two waves of 311 and 305 in March and April 1992. The maximum age of the UK unit of these firms was 16 months, as all sampled units were established in the UK during 1991. The questionnaire was accompanied by a cover letter that explained the objectives of the study, guaranteed confidentiality, and urged response. To ensure a high response rate, the survey was short, concise and salient to the respondents (Heberlein & Baumgartner, 1978). Fourteen days after the initial survey was mailed out, we sent a reminder to all companies that had not yet responded. A week later, we sent a second reminder to companies that had still not responded.

We examined non-response bias using the approach suggested by Armstrong and Overton (1977) by comparing early and late respondents. Two sets of late respondents were defined, corresponding to those who responded after receiving the first reminder and those who replied after receiving the second reminder. Each set of late respondents was com-

pared with the early respondents on six sample measures, using the χ^2 test of independence. Responses from early and late respondents were not statistically different at $P < 0.05$.

We received 289 responses from the mail survey (46.91%). Of these, three were UK domestic firms mistakenly identified as non-UK firms, and 11 were unusable for various other reasons. This left 275 (44.64%) valid responses for analysis which was a high response rate for an unsolicited mail survey. Of the 275 responding firms, 51 were identified as INVs.

INVs were identified in a two-step manner. Initially, firms that responded to the question regarding 'age of parent firm' with a figure smaller than 16 months were identified as potential candidates. Next, telephone interviews were conducted with these firms' managers, during which they described the process of their start-up in detail. Company prospectuses and other relevant literature were requested during these interviews, and obtained for 48 firms. We also interviewed a corporate officer and/or a member of the entrepreneurial team of 36 firms. Senior managers were interviewed in three additional firms. In most cases, firms were described, verbally and in company literature, as 'instant start-up', 'global start-up', etc. Specific descriptions of firm operations were also provided, indicating those business activities that were performed in multiple countries. For example, one firm undertook one stage of production in the US and another stage in the UK, applying different production competencies in each country. Overall, verbal or documentary evidence of INV status was obtained in 48 of the 51 cases.

Secondary data sources were also used to validate the classification of INVs. The date of first UK activity was known to be in 1991. We used company registration records to confirm that, in 38 of the 51 cases, the date of the first activity in at least one other country was 1991. Two firms for which company publications were unavailable were identified in a similar fashion.

The primary source of non-survival data was the Dun & Bradstreet *Business Failures and Expectations* directory (1992b–1996). In an effort to ascertain a firm's survival, we established follow-up contacts with the survey respondents in March and April 1997. Telephone interviews were conducted with officers in all survivor firms. In addition, 28 interviews were conducted on site.

Estimation Method

Our major theoretical position is that strategy choice (i.e., the choice of an INV *vs* a sequential FDI strategy) is made based on the firm's resources and capabilities. It is not exogenous. Thus direct cross-sectional estimates could be contaminated by problems of endogeneity when the estimated equation is not a true reduced form (Devereux & Griffith, 1998; Shaver, 1998). If firms choose competitive strategies that are optimal based on their goals and resources, then cross-sectional models that do not consider this choice are potentially mis-specified and their conclusions may be incorrect (Masten, 1993).

We therefore endogenize strategy choice. This involves estimating a two-equation model, with strategy choice determined in the first stage and survival probability determined in the second stage as an outcome of this strategy choice. Two predictions flow from Hypothesis 1. First, Hypothesis 1 predicts that the two-equation model will outperform the single equation cross-sectional estimation of survival because the latter model is mis-specified. Second, once strategy choice is endogenized (i.e., estimated within a system of equations), it will no longer be a significant predictor of firm survival (see Figure 4.A1).

Variables: Strategy Choice Model

Earlier we noted that firms choosing to implement an INV strategy typically possess advantages that enable them to overcome their limited financial resources. These advantages include owning unique defensible assets (Oviatt & McDougall, 1994), having a high level of international managerial experience (McDougall & Oviatt, 1996), using networks to limit opportunism and protect their assets (Casson, 1997a; Sanchez & Perez, 1998), and employing alternative and innovative governance structures (McDougall, Shane, & Oviatt, 1994). In order to endogenize the choice of an INV strategy, we operationalized these constructs as follows:

Possession of a Unique Intangible Asset

A new foreign entrant combines its tangible assets with specific competencies that cannot be duplicated by the capital market (Mudambi, 1999). These are the intangible assets valued by investors (Morck & Yeung, 1991; Teece, 1998). Understandably, some research links the existence of these intangible assets to the use of the INV mode of entry and its subsequent performance (Zahra & George, 2002). Three measures captured this variable. The various sources of the data for these measures appear in Table 4.1.

- (1) The first indicator was whether the firm was in a high-technology industry, as defined by the OECD (1996). We set the value of this variable at 1 if the industry was high-technology and 0 otherwise, as stated in Table 4.1. Firms in high-technology industries were more likely to have unique knowledge assets that were intangible in nature.
- (2) The second indicator was the firm's R&D intensity (Delios & Beamish, 2001). We used this measure because the greater the firm's R&D intensity, the greater the likelihood that it had and was exploiting or defending key knowledge assets as it ventured into foreign markets.
- (3) The third indicator was the number of patents it filed in the UK (Cantwell, 1989). Patents are well-known measures of intangible knowledge assets that have been extensively used in the literature (Pakes, 1985).

The International Experience of Senior Managers

Managerial experience is a key factor in superior performance (McEnrue, 1988), is conducive to multinational activity (Sambharya, 1996; Shrader et al., 2000), and determines INVs' success (Smith et al., 1996). This experience is important for creating effective linkages that facilitate new ventures' internationalization activities. Two variables captured this factor. Sources of the data for the various measures appear in Table 4.1.

Table 4.1 Descriptive statistics

<i>Variable</i>	<i>Definition</i>	<i>Sources</i>	<i>Mean</i>	<i>s.d.</i>
INTVEN	Set at 1 for an INV approach and 0 for a sequential approach	Survey	0.186	0.389
Survival	Set at 1 if the firm survives and 0 otherwise	Survey	0.713	0.453
High-technology industry ^a	Firm competes in a high-technology industry=1, otherwise 0.	ONS ^b	0.474	0.152
R&D intensity	Total R&D spending divided by firm sales	ONS ^b	0.134	0.207
Patents	No. of UK patents filed	Survey and ONS	1.715	0.988
TMT international experience (years)	Average TMT years of international experience	Survey	11.420	3.921
TMT international experience (%)	% TMT years of international experience to total work experience	Survey	0.327	0.042
TMT no. of countries	Average no. of countries in which TMT members worked	Survey	3.748	1.409
Large MNE experience	Average years of experience of TMT in large MNEs	Survey	5.493	4.117
Export intensity	Firm exports divided by total sales	Survey	10.480	8.561
Inputs/sales	Purchased inputs as % of total company sales	Survey	42.416	15.070
Industry growth rate	Industry annual output growth (%), 1991–1996, calculated at the three-digit SIC	ONS ^b	5.271	3.662
Concentration ratio	Industry five-firm concentration ratio, 1991	ONS ^b	34.582	12.803
Foreign penetration	Industry penetration by foreign firms (%) in 1991	ONS ^b	44.288	24.931
Electrical dummy	Firm's primary industry is electrical engineering and related=1, otherwise=0	ONS ^b	0.385	0.488
Mechanical dummy	Firm's primary industry is mechanical engineering and related=1 otherwise=0	ONS ^b	0.400	0.491
Chemical dummy	Firm's primary industry is chemical engineering and related=1, otherwise=0	ONS ^b	0.215	0.411

(continued)

Table 4.1 (continued)

<i>Variable</i>	<i>Definition</i>	<i>Sources</i>	<i>Mean</i>	<i>s.d.</i>
Non-UK sales	Sales outside the UK in 1991-92 (in US\$)	Survey	52.479	31.478
Duration of MNE activity	Duration of parent's multinational activity (zero for INVs)	Survey	14.577	4.682
Government aid	Value of UK government investment incentives (£ million)	ONS ^b	2.306	1.223
Greenfield investment	If initial entry into the UK is greenfield=1, otherwise=0	ONS ^b	0.367	0.241
US dummy	Firm has a headquarters in the US=1, otherwise=0	Survey	0.265	0.442
Japan dummy	Firm has a headquarters in Japan=1, otherwise=0	Survey	0.153	0.360

^aHigh-technology industries, as defined by the OECD (1996), with UK SIC (1992) three-digit codes, are: pharmaceuticals (24.4), office machinery and computers (30.0 and 72.5), aerospace (35.3), precision instruments (33 except 33.3), and electrical/electronic engineering including telecommunications (22.1, 22.3, 31.1, 31.2, 31.4, 31.6 and 32).

^bONS=UK Office of National Statistics.

- (1) The average number of years of international experience of the firm's top management team (TMT) captured the firm's upper management's exposure to and involvement in international business. This measure followed prior research (e.g., Shrader et al., 2000; Zahra & George, 2002).
- (2) The years of international experience the TMT had as a percentage of total work experience captured the depth of the team's international experience.

International Networks

The networks in which the firm's managers participated can significantly influence its access to resources and information about opportunities in foreign markets. Participation in these networks could substantially reduce monitoring costs (Casson, 1990) and enhance learning

(Liebeskind, Oliver, Zucker, & Brewer, 1995). We used three measures in this study. Sources of data for these measures appear in Table 4.1.

The first was the average number of countries in which members of the TMT had worked. Broad international experience would enable managers to join different social and professional networks that existed across national borders. The higher the number of these countries, the greater the probability that members of the TMT had developed strong ties to existing networks in those countries.

The second measure was whether managers had worked with very large, long-standing MNEs. This experience would allow managers to gain a broad perspective of international operations while building strong professional and social ties. Therefore we used the number of years the members of the TMT had worked for MNEs with sales in excess of US\$10 billion.

The third measure was the firm's export intensity, which indicated the firm's international presence. Lu and Beamish (2001) explained that, for many young and smaller companies, exports were the dominant mode of internationalizing operations. Exporting helps firms to build an international presence and gain experience from different world regions, without incurring the costs or bearing the risks associated with more challenging modes of international entry.

Reliance on Alternative Governance Structures

Transaction cost theory suggests that traditional governance structures tend to be hierarchical (Williamson, 1975). Cooperation and trust usually flourish under alternative governance structures that reduce the influence of hierarchy (Sako, 1992). Trust can give the firm and its partners a competitive advantage (Barney & Hansen, 1994). The existence of non-hierarchical (cooperative) supplier relations is a good indicator of a non-hierarchical governance structure in the firm as a whole (Mudambi, Schründer, & Mongar, 2004). Consequently, we used the total value of inputs as a percentage of sales as a proxy for the overall level of trust and cooperation in a firm's operations (Mudambi & Helper, 1998).²

Variables: Survival Probability Model

Consistent with the strategic choice, industry and firm characteristics were expected to predict survival probability, as follows.

Industry Characteristics

The analyses used five industry characteristics. The first four variables operationalized, respectively, the constructs in Hypotheses 2a–d. Sources of data for the measures appear in Table 4.1.

- (1) Industry growth was measured by the average output growth during the 1991–1996 period (Zahra & George, 2002).
- (2) Seller concentration was measured by the five-firm concentration ratio in 1991, following Audretsch (1995).
- (3) Foreign penetration was measured as the percentage of industry sales made by non-UK firms in 1991.
- (4) The knowledge-based nature of the industry was measured as a dummy variable constructed following the OECD definition of high-technology industries (OECD, 1996), as discussed earlier.
- (5) Industry type was used as a control variable, and was measured by classifying industries represented in the sample into three groups: electrical, mechanical and chemical. Dummy codes were used, employing the chemical sample as the reference group.

Firm Characteristics

We also captured six firm characteristics in the analyses; the first five variables operationalized, respectively, the constructs in Hypotheses 3a–e. Table 4.1 presents the sources of data for these variables.

- (1) Technological competence was measured using the firm's R&D intensity and the number of UK patents it had filed. These measures

- gauged the firm's technological prowess, a variable that can expedite and intensify internationalization (Lu & Beamish, 2001).
- (2) Company size was measured by the level of non-UK revenues, employing a logarithmic transformation to correct for skewness of the distribution. Larger companies were expected to have slack resources that allowed them to expand internationally (Zahra et al., 2000).
 - (3) International experience was measured by a firm's years of multinational experience. This variable had a value of zero for INVs.
 - (4) Government support was measured by the total pecuniary value of government investment incentives. We expected government support to reduce managers' perceptions of the risks associated with internationalization and encourage companies to venture abroad.
 - (5) The mode of initial entry (greenfield *vs* acquisition) was a dummy variable. Shaver (1998) proposed that entry mode was not an exogenous variable and should be endogenized. However, since all INVs were greenfield entries, the correlation between these two strategic choices was too high to permit the endogenization of both decisions (e.g., via bivariate probit). Our estimation approaches were similar to Li (1995) and McCloughan and Stone (1998).
 - (6) Two country-of-origin dummies captured the effect of a firm having significant operations in one of the world's two major economies: Japan and the US. These were the two major markets that British companies targeted in their operations. Given the cultural, political, technological and economic differences that exist between Japan and the US, our analyses controlled for this factor.

Results

The data in Table 4.1 show that 18% of the companies in the sample were created as INVs. About 71% of the total sample survived over the study period (1991–1996). About 47% of the companies competed in high-technology industries. Companies spent about 13% of their sales on R&D. These companies also competed in industries that had an average growth rate of 5.3%. Firms reported that about 10% of their sales came

from exports. Foreign share of industry sales for companies in the sample was 44.3%.

Table 4.2 displays the results of two unconditional tests of the relationship between multinational strategy (INV or sequential FDI) and survival. The χ^2 test of independence shows that the hypothesis that strategy and survival are independent is rejected ($P < 0.05$). The failure rate for INVs is about 41%, while this rate for sequential FDI firms is almost 26%. A difference-of-proportions test suggests that this difference is significant at $P < 0.055$. Thus the evidence seems to indicate that the survival rate for INV firms is lower than for sequential FDI firms. Given these estimates are unconditional, they do not consider the fact that INV firms and sequential FDI firms may differ systematically. This raises two questions: (a) Do INVs have lower survival rates after conditioning on the factors that lead to the choice of this strategy? and (b) Can INVs improve their survival prospects by adopting a sequential FDI strategy? As seen in Figure 4.1, antecedent factors lead to the choice of both an INV strategy and affect survival rates. Consequently, the effect of the INV strategy choice on survival should be disaggregated from the direct effect of the antecedent variables on survival. This can only be done with a multivariate approach that incorporates a company's strategic choice.

Table 4.3 reports the results for the endogenization of strategy choice model, estimated using binomial probit. This analysis helps to identify

Table 4.2 FDI strategy and survival: unconditional results

	FDI strategy		
	INV=1 (INV strategy)	INV=0 (Sequential FDI)	All firms
<i>Outcome</i>			
Survive	30	166	196
Exit	21	58	79
	51	224	275
<i>Test of independence</i>			
$\chi^2(1)$	4.739		
$\chi^2(1)$ Crit.	3.841 (5%)	6.635 (1%)	
Failure rate	0.4118	0.2589	0.2873
<i>Difference-of-means test</i>			
$t(273)$	2.1723		
$t(273)$ crit.	1.9687 (5%)	2.5940 (1%)	

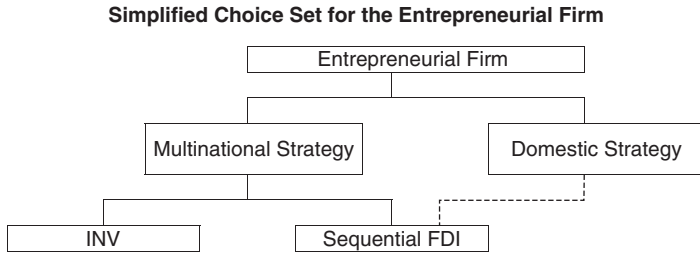


Figure 4.1 The effects of strategy endogeneity

Table 4.3 Estimating FDI strategy choice: probit results (maximum likelihood estimates)

<i>Variables</i>	<i>Coefficient (t-statistic)</i>
Constant	-1.8531 (2.031)*
High-technology industry	0.1951 (1.020)
R&D intensity	0.09376 (2.339)*
Patents	0.1265 (1.496)
TMT international experience (years)	-0.01813 (0.785)
TMT international experience (%)	0.02177 (2.730)**
TMT no. of countries	0.03116 (0.605)
Large MNE experience	0.09136 (2.478)*
Export intensity	0.03641 (2.990)**
Inputs/sales	0.4379 (1.317)
<i>N</i>	275
Log-likelihood	121.5876
Restricted log-likelihood ($\beta=0$)	131.8802
Likelihood ratio test: $\chi^2(9)$	20.58518
(<i>P</i> value)	(0.01462)
Iterations	10

Dependent variable: INV=1 (INV strategy) and INV=0 (sequential FDI strategy). Positive coefficients indicate a higher probability of observing an INV strategy. * $P < 0.05$; ** $P < 0.01$.

key factors that lead a firm to adopt an INV, rather than a sequential strategy. The percentage of senior managers’ international experience, not the length of this experience, encourages the use of an INV strategy probably because most INV managers in the survey were relatively young. Greater TMT experience at large MNEs, higher R&D intensity and high

export intensity also significantly increase the likelihood of following an INV strategy.

Base-line probit estimates of FDI survival probability are uncorrected for selectivity bias. These estimates appear in Table 4.4 (column A) and are repeated in Table 4.5 (column A). Our analysis applies two approaches to correct for selectivity bias. The first approach uses the estimated values of the INV variable from Table 4.3, along with other exogenous variables to obtain instrumental variable estimates of the survival probability. These estimates appear in Table 4.4 (column B). Though the selection bias problem has been addressed so that the coefficient of the INV dummy variable

Table 4.4 Estimating survival: the effect of endogenizing strategy (maximum likelihood estimates)

<i>Variables</i>	<i>A</i> <i>Base-line probit</i> <i>estimates</i>	<i>B</i> <i>Instrumental variable</i> <i>estimates^a</i>
Constant	2.636 (2.08)*	1.081 (2.80)**
Industry growth rate	0.537 (2.13)*	0.099 (1.94)
Concentration ratio	0.459 (0.80)	0.149 (0.79)
Foreign penetration	0.002 (2.63)**	-0.0005 (2.04)*
High-technology industry	-0.134 (0.69)	-0.026 (0.40)
Electrical dummy	0.495 (2.08)*	0.211 (2.34)*
Mechanical dummy	-0.341 (1.24)	-0.126 (1.40)
R&D intensity	0.646 (2.47)*	0.160 (2.71)**
Patents	-0.0061 (0.07)	0.016 (0.55)
Ln (non-UK sales)	0.241 (3.21)**	0.020 (2.74)**
Duration of MNE activity	0.0129 (2.69)**	0.036 (2.60)**
Government aid	-0.062 (0.74)	-0.032 (1.13)
Greenfield	0.129 (0.57)	-0.212 (1.11)
US dummy	-0.404 (1.95)	-0.137 (1.96)
Japan dummy	0.675 (2.72)**	0.153 (2.48)*
INV	-0.559 (3.67)**	-0.124 (0.19)
<i>N</i>	275	275
Log-likelihood	-129.9776	-179.3904
Restricted log-likelihood ($\beta=0$)	-164.9152	-152.1359
Likelihood ratio test χ^2 (df);	69.8752 (15)	54.5090 (15)
(<i>P</i> value)	(0.000)	(0.000)

Dependent variable: SURV=1 (firm survives) and SURV=0 (firm does not survive). Positive coefficients indicate a higher probability of observing an INV strategy.

^t statistics in brackets.

* $P < 0.05$; ** $P < 0.01$.

Table 4.5 Estimating survival: the effect of endogenizing strategy (explicitly estimating the self-selection parameter)

Regressors	C			E
	A	B	D	
	Base-line probit estimates	Heckman selection estimates	INVs	Sequential FDI
Constant	2.636 (2.08)*	1.045 (3.23)**	-0.891 (1.10)	2.999 (2.39)*
Industry growth rate	0.537 (2.13)*	0.126 (1.95)	0.251 (1.45)	0.002 (2.38)*
Concentration ratio	0.459 (0.80)	0.0988 (0.63)	0.049 (0.12)	0.442 (0.77)
Foreign penetration	-0.002 (2.63)**	-0.0005 (1.94)	0.007 (0.03)	-0.002 (0.49)
High-technology industry	-0.134 (0.69)	0.289 (1.55)	0.170 (1.25)	-0.188 (0.09)
Electrical industry dummy	0.495 (2.08)*	0.141 (2.19)*	0.201 (1.13)	0.482 (2.04)*
Mechanical industry dummy	-0.341 (1.24)	-0.105 (1.42)	-0.307 (1.68)	-0.250 (0.91)
R&D intensity	0.646 (2.47)*	0.206 (2.63)**	0.431 (2.12)*	0.629 (2.40)*
Patents	-0.0061 (0.07)	0.0146 (0.58)	-0.040 (0.58)	0.056 (0.63)
Ln (non-UK sales)	0.241 (3.21)**	0.048 (3.08)**	0.113 (2.91)**	0.230 (3.15)**
Duration of MNE activity	0.0129 (2.69)**	0.004 (2.78)**	—	0.017 (2.92)**
Government aid	-0.062 (0.74)	-0.212 (0.93)	0.028 (0.49)	-0.080 (0.96)
Greenfield	0.129 (0.57)	0.053 (0.83)	—	0.132 (0.59)
US dummy	-0.404 (1.95)	-0.123 (2.12)*	0.013 (0.09)	-0.396 (1.91)
Japan dummy	0.675 (2.72)**	0.222 (3.05)**	-0.176 (1.12)	0.652 (2.60)**
INV	-0.559 (3.67)**	-0.547 (1.12)	—	—
Self-selection parameter	—	0.238 (2.64)**	-0.118 (0.60)	1.036 (1.90)
N	275	275	51	224
Log-likelihood	-129.9776	-126.1506	-20.2327	-130.5230
Restricted log-likelihood ($\beta=0$)	-164.9152	-172.1359	-54.5522	-164.9152
Likelihood ratio test: $\chi^2(df)$	69.8752 (15)	91.9706 (16)	68.6390 (13)	68.7845 (15)
(p value)	(0.000)	(0.000)	(0.000)	(0.000)

Regressand: SURV=1 (firm survives); SURV=0 (firm does not survive).

t statistics in brackets.

*Coefficient significant at the 5% level (one-tail); **coefficient significant at the 1% level (one-tail).

now represents the direct effect of an INV strategy, this approach does not extract the effects of the factors underlying the INV strategy choice.

The second approach employs the explicit value of the self-selection parameter, which is estimated and employed as an 'independent' variable. This approach follows the traditional Heckman (1979) procedure, modified to utilize all the study's observations (both INV and sequential FDI firms). These estimates appear in Table 4.5 (column C). The estimates in column C still suffer from the problem that the coefficients on the independent variables are restricted to be the same for INVs and sequential FDI firms. Dropping this restriction is possible only by estimating the two groups separately, while still considering selectivity bias. These estimates appear in Table 4.5 (columns D and E). The Appendix provides technical details of the estimation procedure.

Industry Characteristics

The estimates in columns A, B and C are generally similar in terms of the effects of the moderator variables. As predicted, industry sales growth increases the probability of survival, but a higher foreign penetration of the industry reduces it, supporting Hypotheses 2a and 2b. Seller concentration in the industry is not significant, failing to support Hypothesis 2c, but the results are consistent with some earlier findings (Audretsch, 1991). The high-technology industry dummy is not statistically significant, failing to support Hypothesis 2d.

Firm Characteristics

The results for the moderating effect of firm characteristics show that technological competence, captured by R&D intensity, improves a firm's survival prospects in foreign markets. The same is true for the size of the firm measured by global non-UK sales. These results support Hypotheses 3a and b. Technological competence, measured by the number of patents, is not significant, probably because we used only patents obtained in the UK. Given that all the firms in our sample are multinational, pat-

enting could occur in many countries (Cantwell, 1989). Further, firm and industry variables often influence patenting (Pakes, 1985). DeCarolis and Deeds (1999) report similar findings to ours.

TMT multinational experience significantly increases the probability of a firm's survival in foreign markets, supporting Hypothesis 3c. However, the volume of government investment support does not improve firms' survival prospects, contrary to Hypothesis 3d. Finally, the mode of entry does not significantly affect survival probability. Hypothesis 3e is not supported by the data, contradicting the findings of Li (1995) and McCloughan and Stone (1998).

Firms with US operations have a significantly lower survival probability. An examination of the estimates in Table 4.5 (columns D and E) traces this effect to those firms pursuing sequential FDI. US operations do not affect INVs' survival prospects. Since the effect is traced to MNE headquarters, the estimate may be capturing the greater discipline imposed on companies with US parents by the US stock market. Conversely, firms with Japanese operations have significantly higher survival probabilities. The estimates reported in Table 4.5 (columns D and E) also indicate that this effect is traced to firms pursuing sequential FDI. The results also show that having a Japanese MNE parent reduces the probability of a firm's exit.

Examining the estimates of the uncorrected model in Tables 4.4 and 4.5 (column A), an INV strategy significantly lowers the probability of survival. Thus firms following a sequential FDI strategy may have a higher probability of survival. However, when the estimates are corrected for selectivity bias (column B in Table 4.4 and column C in Table 4.5), these results disappear. The magnitude of the estimated coefficient falls only marginally (in Table 4.5 column C), and its statistical significance vanishes. Thus an INV strategy is no more likely to fail than a sequential approach to FDI.

The self-selection parameter is statistically significant, and the estimated correlation between INV and the error term is approximately 55%. Further, observing the separate estimates for INVs and sequential FDI, we note that the estimates for the sequential firms roughly mirror those of the full sample. These three results strongly support the selection model.

Robustness of Results

Selection models are sometimes non-robust because of the high degree of non-linearity in their underlying relationships. In this study, we find that the results of the two separate estimating procedures – the instrumental variables methodology (Table 4.4, column B) and the selection methodology (in Table 4.5 column C) – correspond quite closely. Further, the results in Tables 4.4 and 4.5 have been subjected to sensitivity analysis, by successively dropping older firms from the sample, so that the sequential FDI group is composed of younger firms. The only change we observe is that the level of significance for some of the moderator and control variables declines and becomes insignificant in some cases. However, the changeover in the significance of the INV variable between column A and columns B and C and the significance of the self-selection parameter in column C persist, reaffirming the results' robustness.³

Discussion

A growing body of research highlights the prominent role that INVs play in today's global economy (Zahra, 2005). Though INVs have several strengths that enable them to build an enduring competitive advantage (Autio et al., 2000; Oviatt & McDougall, 1994), they may also suffer from the liabilities of newness and foreignness that reduce the odds of their survival (Sapienza et al., 2006). This study has sought to determine the survival probability of INVs relative to sequential modes of international entry, an issue that has not been thoroughly examined in prior research (Sapienza et al., 2006). Given that INVs are becoming a popular mode of internationalization, we need to document their riskiness. Our results help to clarify the factors that influence new venture survival, an issue of interest in the study of entrepreneurship (Baum et al., 2001; Zimmerman & Zeitz, 2002). Table 4.6 summarizes the support we found for our hypotheses. Our key findings are discussed next.

Table 4.6 Summary of results

<i>Hypotheses</i>	<i>Support</i>
1: An INV strategy has a probability of failure that is no greater than that for a sequential FDI strategy.	Yes
2a: A higher level of industry growth increases the probability of survival for a new foreign entrant.	Yes
2b: A higher level of existing foreign penetration of an industry reduces the probability of survival for a new foreign entrant.	Yes
2c: A higher level of existing seller concentration reduces the probability of survival for a new foreign entrant.	No
2d: A higher level of industry knowledge-intensity reduces the probability of survival for a new foreign entrant.	No
3a: A foreign entrant with a higher level of technological competence has a higher probability of survival.	Yes
3b: A larger foreign entrant has a higher probability of survival.	Yes
3c: A foreign entrant with a higher level of international experience has a higher probability of survival.	Yes
3d: A foreign entrant with a higher level of government support has a higher probability of survival.	No
3e: A foreign entrant that enters using a greenfield strategy has a higher probability of survival.	No

Survival Odds of INVs vs Other Modes

As Table 4.6 shows, Hypothesis 1 is supported. When compared with FDI undertaken by established firms, INVs have about the same survival probability. As a result, INVs would do poorly if they used a sequential FDI strategy. Similarly, sequential FDI firms would reduce their survival prospects by pursuing an INV strategy. These results complement McDougall and Oviatt (1996) who report that INVs do not suffer performance penalties when compared with domestic new ventures.

Examining the data in Table 4.2 makes clear that the lower naïve survival rates for INVs arise from underlying industry conditions. INVs appear to be more effective in riskier industries or at riskier stages of an industry's evolution (Audretsch, 1995), where the probability of failure for new entrants is high (Porter, 1980; Zahra & George, 2002). This supports existing evidence that the liability of newness is sensitive to strategy choice (Henderson, 1999). INVs' advantages are particularly strong when industry conditions are uncertain. When industry conditions are

highly volatile, the liabilities of newness and foreignness are *relatively* less severe. There may be few large, well-known competitors and domestic firms that may not have established credibility. Perhaps some managers view INVs as a viable approach to expediting their firm's development while counteracting the negative influence of uncertain industry conditions. This finding deserves further examination in future studies.

Effect of Industry Variables on Survival (Hypotheses 2a–d)

Derived from the strategic choice approach, Hypotheses 2a–d focused on the effect of industry variables on new foreign entrants' survival. As Table 4.6 reports, high industry growth rates improve the odds of survival, supporting Hypothesis 2a. These industries are full of opportunities that are ripe for exploitation, and new firms may capitalize on emerging niches (Shrader et al., 2000; Zahra et al., 2000), instead of competing head to head with established companies. The results also show that industries with high levels of foreign penetration reduce the odds of survival, consistent with Hypothesis 2b. As noted earlier, the entry of foreign rivals intensifies competition, increases innovations that can undermine newcomers' positions, and pre-empts new companies from locating and developing profitable niches (Porter, 1986).

The analyses also showed that seller concentration in the industry was not significantly related to survival probability in foreign markets, contradicting Hypothesis 2c. Though inconsistent with predictions, the results support some earlier findings (Audretsch, 1991). Even in highly concentrated industries, newcomers have been adept at uncovering niches that have been overlooked by the industries' key players. Newcomers have been especially creative in developing these profitable niches without challenging resource-rich rivals (Hamel & Prahalad, 1994).

The results do not support Hypothesis 2d. Specifically, we argued that a high level of knowledge intensity reduces the probability of survival in foreign markets. Even though these results did not support our prediction, they can be reconciled with Audretsch (1995), who found that the likelihood of new-firm survival is lower in high-technology industries.

Audretsch argues that some high-technology industries are characterized by ‘routinized’ innovations that are developed mostly by large firms, but others are characterized by ‘search’-based innovations and small firms. It is in these latter industries that new firm survival rates are low. The fact that the high-technology firms we examined are a mixture of both types of firm might explain the insignificance of the high-technology variable in this study.

The results also show that the survival rate in the electrical industry group is significantly higher than the referenced chemical group, contradicting Audretsch (1995). Given that entry and exit rates in the same industry vary widely across countries (Geroski & Schwalbach, 1991), our results based on UK data may be sample-specific. In addition, the UK has an established competence in pharmaceuticals and biotechnology (Cantwell, 1995), which might have contributed to a high level of ‘search’-based innovation in the chemical industry group, as found in this study.

Effect of Firm Characteristics on Survival (Hypotheses 3a–e)

As Table 4.6 shows, and consistent with expectations, entrants who had high levels of technological competencies had a higher probability of survival – which supports Hypothesis 3a. This finding highlights the role of the firm’s intangibles in ensuring organizational success (Delios & Beamish, 2001; Dunning, 1981; Porter, 1980). Technological competencies allow firms to build strong market presence, enter viable strategic alliances, cultivate profitable relationships, and introduce new products that foreign customers value (Zahra et al., 2000).

Both size and experience are valuable in ensuring firm survival, supporting Hypotheses 3b and 3c. The beneficial effect of size on survival supports findings for firms in general (e.g., Mata & Portugal, 1994). However, the literature also documents that the effect of firm-specific factors such as size and experience varies by the length of the period over which we measured survival (Audretsch, 1991). Industry factors and firm factors are important in short-term performance windows, whereas firm-specific factors are more crucial for superior long-term performance. Our

performance window is of intermediate length. Therefore firm-specific factors should be relatively more important, and our empirical results support this expectation.

Contrary to expectations, Hypothesis 3d is not supported. The results in Table 4.6 show that firms receiving greater support from the government do not have a significantly higher rate of survival than those firms without such support. It is possible that some 'loser picking' is going on, so that government support goes to those weaker companies that are struggling with the challenges and high costs of internationalization and consequently may not benefit from it. Governments often encourage companies that do not have an international presence to consider exporting and other international transactions. Alternatively, taxpayers' money spent on investment supports may only induce MNEs to locate in a given country. If this is true, then an exit might occur soon after government support expires. Still, even as inducements, government support may have only marginal effects on internationalization (Cantwell & Mudambi, 2000).

Finally, the mode of entry does not significantly affect survival probability, failing to support Hypothesis 3e (Table 4.6). These results contradict the findings of Li (1995) and McCloughan and Stone (1998). It might be that the mode of entry *per se* is not the critical factor that determines organizational survival. Instead, resources and competencies underlying a firm's entry mode choice might make a more significant difference in determining FDI survival. Indeed, Hennart and Park (1993) report that the strength of a firm's competencies is significant in determining mode choice. Shaver (1998) also reports that, once the endogeneity of mode choice is considered, it has no significant effect on firm survival.

Managerial Implications

Finding that INVs and sequential modes of foreign entry have about the same odds of survival suggests that entrepreneurs and managers should consider their firm's industry conditions and resources before selecting a mode of entry. Consequently, while there is much to be

learned about INVs, not every company would benefit from using this approach. By evaluating the information about a firm's resources and industry conditions the entrepreneur can choose the appropriate mode of entry. Entrepreneurs need to analyze the conditions of the industries they intend to enter abroad and the nature of the competitive forces that dominate these industries. This is especially important for young new ventures that do not have much expertise in conducting competitive analysis.

One of the most striking findings from this study is the importance of the entrepreneurial TMTs' international experience in influencing a firm's survival in foreign markets. Knowledge about the social (Sohn, 1994) and market conditions (Zahra et al., 2000) clearly improves the odds of successfully implementing the chosen mode of entry. Consequently, those CEOs aiming to internationalize their operations should give special attention to, and capitalize on, the international experience of other TMT members. Changes in TMT membership should also be made with this in mind.

The results also urge managers to effectively exploit their firms' intangible resources as they consider internationalizing their operations. Intangible resources such as technological competencies are conducive to successful internationalization (Delios & Beamish, 2001; Dunning, 1981; Lu & Beamish, 2001; Zahra et al., 2000). Our results indicate that firms with high levels of technological competencies are more likely to survive than firms without such competencies. Therefore it is important for the firm to develop these competencies and exploit them in planning its international expansion by offering innovative products and entering technology-based alliances, thereby reducing the odds of failure.

Future Research

New ventures' growing role in the global marketplace demands more research attention to their survival potential in foreign markets (Sapienza et al., 2006). Our study presents a first effort at examining INV success factors and survival in the UK. A more comprehensive data set using dif-

ferent measures of firm and industry characteristics would improve future research. Indeed, a limitation of our study is its focus on UK businesses. Issues of inter-jurisdictional competition within the European Union highlight this limitation. In a series of recent decisions, the European Court of Justice has supported companies' attempts to take advantage of jurisdictional arbitrage to incorporate in countries, such as the UK, which have relatively lighter regulatory burdens.⁴ For this reason, some UK-linked INVs may derive benefits from internalizing regulatory advantages across national borders. Using data on INVs from multiple countries may provide a more stringent test of INV survival capabilities.

A second issue with the UK-centric sample is the observed importance of R&D intensity in INVs' strategy choice and survival. A study of INVs with a focus on other countries (e.g., China) may uncover different types of unique asset. For example, global commodity chains involve firms that coordinate complex management systems stretching from raw materials to often rapidly fluctuating final demand markets. Still, the products and industries involved are low tech, such as apparel or footwear. In such cases, reconciling cost pressures with final-market-focused design capabilities compels firms to be 'literally born global' (Gereffi, 1999). Unique and defensible assets include management expertise (e.g., Liz Claiborne) or relational ties within internationally dispersed diasporas (e.g., Li and Fung).

Future research would also be improved by considering country-related variables and how they may influence a new firm's survival in foreign markets, an issue that has not been examined systematically in the literature. Country-related variables may influence a new venture's mode of entry. The countries represented in a firm's business portfolio can also determine the survival rate of new companies. Countries also vary in their business and political risks as well as in their receptivity to foreign companies, an issue we do not explore in this study. Such variations can influence the extent to which INVs experience the liability of foreignness and how this liability might influence these firms' survival. Cultural distance also might magnify the liability of foreignness, possibly reducing INVs' survival odds. Indeed, such country-specific effects could well dominate the industry- and firm-level variables we emphasized in our analyses. Finally, though our results suggest that INVs and other sequen-

tial modes of entry have about the same odds of survival, we need to further evaluate the long-term implications of these two approaches for a company's profitability and growth.

The data show that failure rates vary for INVs (41%) and firms that follow sequential FDI (25%) (Table 4.2). But failure is only one aspect of performance. Profitability indicators should also be integrated into the analysis. Thus a more complete and informative picture of the implications of these two modes emerges by considering what happens after survival. The learning advantages that INVs have relative to others (Autio et al., 2000; Sapienza et al., 2006; Zahra, 2005; Zahra et al., 2000) might magnify surviving INVs' profitability and other indicators of financial performance. This issue deserves attention in future research.

Conclusion

INVs are a relatively new but growing form of international operations. The advantages of this approach have led some to view INVs as the archetypal entrepreneurial firm of the future. Consequently, it is reassuring that our results show that INVs have similar odds of survival as other modes of foreign entry. The results also indicate that INVs are especially useful in riskier industries, underscoring the importance of understanding a firm's resources and industry characteristics and how they might influence INVs' survival. Our study is part of a young but growing body of literature that suggests, at least in terms of firm survival, that the liability of foreignness may be a more nuanced construct than originally proposed. Recent research proposes that foreign and domestic firms do not differ in their survival probabilities after controlling for industry and firm characteristics (Mata & Portugal, 2002). These results persist even after considering a firm's newness. Our results highlight the crucial importance of including strategy and choice in models of firm performance in examining new firm survival in international markets. Entrepreneurs eager to expand internationally would do better if they analyzed their markets systematically and formulated competitive strategies that built on their firms' capabilities. These strategies help to improve the probability of INVs' survival.

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Appendix

Once a new firm decides to internationalize its business operations, it must choose between an INV strategy and a sequential entry strategy. The strategy choice is that of a start-up that has already decided to adopt a multinational strategy and is considering whether to implement this immediately or in the future. Thus the decision being examined is a conditional one, which is the standard approach to modal choice in the FDI literature (Czinkota et al., 1996; Devereux & Griffith, 1998). This approach usually assumes that the decision to adopt an INV strategy is analogous to an established firm making a modal strategic choice decision. Firms choose an INV strategy when the expected value of a multinational start-up exceeds the expected value of a sequential approach to multinationality. The variable of interest is the difference between the expected value of launching an INV and the expected value of achieving multinationality sequentially. These two decisions differ in timing, in that the INV is multinational from its inception whereas a firm using FDI sequentially becomes multinational at a later age.

For firm i , the difference between the expected value of creating an INV and adopting a sequential approach to FDI is denoted by INV^*_i . This variable is a function of firm and industry characteristics, which can be collected together in a vector, Z_i . The actual outcome also involves an error term, e_{i3} , attributable in part to unobservable factors (e.g., Buckley & Carter, 1998; Casson, 1996). INV^*_i itself is a latent variable, but the firm's choice of strategy is observable. This generates a binary choice variable, INV_{i3} (=1 where an INV is launched, and =0 where FDI follows a

sequential approach).⁵ This is a standard dichotomous choice model, and for the i th firm it is specified as follows:

$$\begin{aligned} \text{INV}_i^* &= \mu' \mathbf{Z}_i + e_i \\ \text{INV}_i &= \begin{cases} 1 & \text{if } \text{INV}_i^* > 0 \\ 0 & \text{otherwise} \end{cases} \end{aligned} \quad (4.A1)$$

Firm performance is determined by firm and industry characteristics, with the binary INV_i variable providing an additive difference. The firm and industry variables that affect performance can be gathered together in a vector \mathbf{X}_i while INV_i functions as a dummy variable. Several of the variables, which affect the strategic choice of INV launch, would also affect performance after the choice is made. Thus many variables will enter both \mathbf{Z}_i and \mathbf{X}_i . Denoting survival, the measure of performance by SURV_i the following specification is implied:

$$\text{SURV}_i = \beta' \mathbf{X}_i + \theta \text{INV}_i + u_i \quad (4.A2)$$

As in Eq. (4.A1), the error term in Eq. (4.A2), u_i , is attributable partly to unobservable factors, some of which are the same as those determining e_i . This means that u_i and e_i are correlated, and that INV_i suffers from problems of endogeneity, because INV_i is not a 'given' characteristic but a chosen strategy. Firms select into the two categories in INV_i based on their respective resources and capabilities. These resources and capabilities determine the choice of strategy but also influence the probability of survival (Figure 4.A1). Treating INV_i as a normal exogenous variable leads to selectivity bias (Heckman, 1979), which appears in both the mean and the variance of the estimator of θ in Eq. (4.A2). The estimate of θ is biased in the direction of the correlation between the errors u_i and e_i . Also, the estimated standard error of θ is biased downward. Consequently, the probability that it will appear significant is increased.⁶

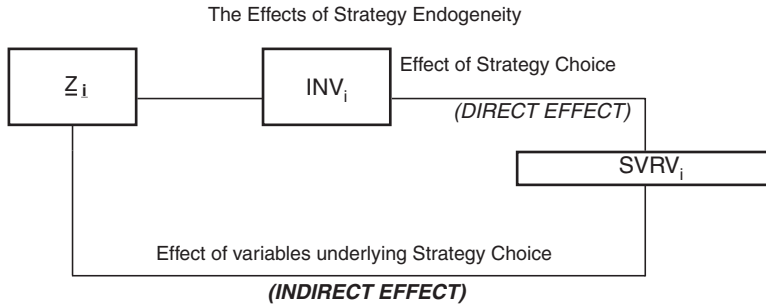


Figure 4.A1 Simplified choice set for the entrepreneurial firm

Testing Hypothesis 1 involves estimating Eqs. (4.A1) and (4.A2). The first step involves estimating Eq. (4.A1), and provides a preliminary test of the variables that affect the choice of an INV strategy. Next, direct estimates of Eq. (4.A2) are generated: i.e., treating INV_i , the INV dummy, as exogenous. Testing Hypothesis 1 involves comparing these direct estimates with estimates of Eq. (4.A2) after accounting for selectivity bias (in effect estimating Eqs. (4.A1) and (4.A2) simultaneously). Several estimating methodologies for addressing selectivity bias are available, and two separate approaches are used here. Equation (4.A2) is estimated separately for INVs and sequential FDI firms. This is done in a two-step manner, adding the estimated self-selection parameter from the estimation of Eq. (4.A1) as a regressor in separate estimations of Eq. (4.A2) for INVs and sequential FDI firms. While these estimates are not efficient, they are consistent.⁷ Finally, Hypotheses 2 and 3 are tested using the estimates of Eq. (4.A2). Given that the correction of selectivity bias is argued to be the correct specification, the tests based on these estimates are preferred.

Notes

1. Modern INVs, however, are more diverse in their goals and business scope than the free-standing companies of yesteryear. Some INVs coordinate few activities across countries and take advantage of arbitrage opportunities and profit from their network of business associates and competencies in logistics. Others coordinate many activities, using diverse

competencies in several areas such as R&D, production and human resources. Some INVs are geographically focused while others are not, depending on their assets and markets. Free-standing companies, however, were geographically focused start-ups that operated in only two countries – home (headquarters) and host (where they carried out their operations) (Chapman, 1992).

2. In the literature on alliances, it is reported that both extremely ‘tight’ and extremely ‘loose’ performance criteria are precursors of failure (Doz, 1997). This suggests that successful governance structures for INVs should share these characteristics.
3. The estimates are also robust to data set specification. The three firms for which primary documentary and verbal evidence of INV status was unavailable were excluded without significantly perturbing the estimates.
4. Centros Ltd and Inspire Art Ltd, companies wholly owned by Danish and Dutch citizens respectively, incorporated in the UK to take advantage of UK minimum paid-in capital laws (European Court of Justice, 1999, 2003).
5. The notation used here is the standard notation used in the literature on limited dependent variables (Maddala, 1983).
6. For a technical treatment of the problem of selectivity bias and its effect on estimation, see Greene (1993). Shaver (1998) provides a detailed description of the problem in the context of FDI modal choice. Rasmusen (1998) analyzes a related problem, noting that if the effects of the endogeneity are known, the direction of the bias can be inferred.
7. These estimates do have the minimum variance of all possible estimators (they are not efficient), but they do get closer to the true values as sample size gets bigger (consistency).

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5

International New Ventures: Revisiting the Influences Behind the 'Born-Global' Firm

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Introduction

Improvements in global telecommunications and transport networks, combined with increasingly liberalized global trading regimes, have enabled the rise of a new class of start-ups that span international borders at birth. However, in spite of the research attention on this phenomenon,

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the *raison d'être* and effects of economic and socio-cultural factors on these international new ventures are still not well understood (e.g., Kandasaami, 1998; Zahra, 2005). A similar general observation can be made on our understanding of new venture survival and evolution in general, despite several decades of research (Phan, 2004).

Oviatt and McDougall (1994), in their seminal article, define an international new venture as a business organization that, from inception, seeks to derive significant competitive advantage from the use of resources from and the sale of outputs to multiple countries. The growing literature on these so-called 'born-international' (or 'born-global') firms (e.g., Hedlund & Kverneland, 1985; Rialp, Rialp, & Knight, 2005) positions itself in contrast to the more established, staged-internationalization literature of Hymer (1960, 1968), Johanson and Vahlne (1977, 1990) and others (e.g., Dunning, 1988; Melin, 1992).

Many scholars have concentrated on portraying these international new ventures as an entirely different breed of firms, which defy cultural and socio-institutional constraints faced by the more traditional, staged-internationalizing companies (e.g., Ganitsky, 1989; Hedlund & Kverneland, 1985; McKinsey and Co., 1993). In the former view, firms start up internationally or focus on international markets shortly after inception, bypassing the maturing process that accompanies domestic development. In the latter view, firms adopt an international strategy as a result of a sequential process (also known as the Uppsala model of staged internationalization) that begins with building markets and capabilities at home before venturing abroad (Chang, 1995; Johanson & Vahlne, 1977).

Instead of treating international new ventures as a distinct breed of firm, we investigate in this paper whether they are influenced by the same economic factors in their early internationalization decisions as the staged-internationalizing firms, and the extent to which these international new ventures are still subject to the influence of cultural distance when their specific business decisions involve the mass market.¹ Based on suggestions by Oviatt and McDougall (1994), we conducted a census of firms in a technologically homogenized industry over a wide geographical area, and model their internationalization decision at inception. Most

importantly, we include both the early-internationalizing firms and their counterparts in the same industry and country who chose not to internationalize early.

Our contribution to this literature is threefold. First, we demonstrate that economic factors play a significant role in influencing firms to internationalize early (or not): early internationalization may in fact represent *the* profit-maximizing strategic path for some firms. This point has only been suggested and not empirically supported in the ‘born-global’ literature. While our data do not go so far as to confirm that many ‘born-global’ firms may in fact have been forced to go global owing to the relative lack of more profitable opportunities elsewhere, such anecdotal comments would certainly be consistent with the findings in this paper. Second, our empirical analyses suggest that even early-internationalizing firms may be subject to the same socio-cultural influences in allocating their production capacities to international markets when their products are designed to cater for the mass markets. In other words, the cultural-distance defying character of born-globals may be more limited in reality than previously portrayed in the literature. Third, our analysis demonstrates that the decision by firms to internationalize early or not should be considered jointly with the capacity allocation decision (for international markets). In other words, analyzing these separately, or including only the early-internationalizing firms in the sample, may lead to biased interpretations of the motivation behind these decisions.

In spite of the explicit allowance for different forms of internationalization (e.g., those with an international component as part of the value chain as opposed to mere exports) in Oviatt and McDougall (1994), a vast majority of the literature on international new ventures still focusses on export sales. In this paper, an explicit allocation of capacity for international sales can be clearly measured, whereas the inclusion of an internationalized value chain is less obvious. We therefore restrict our view of ‘international’ new ventures to those that allocate an observable production capacity for potential international sales.

We next develop our hypotheses with regard to new ventures that internationalize at their inaugural production. We define new ventures as independently operated and marketed corporate entities that have no

prior corporate history in the industry, and hence no prior market presence. In other words, a restructured company with a brand new corporate identity, a merged entity of several companies or a divested subsidiary is not considered a new venture. Also, a new company that relies on another company for its marketing and/or other key corporate functions (e.g., a subcontractor, private-label manufacturer, etc.) is not included here. We focus primarily on *de novo* ventures where the parent company (if any) has no experience in the same industry as the ventures themselves, but do include a handful of diversifying ventures where the parent company is starting a new, independently operated and marketed entity in the same industry.

International New Ventures

In contrast to those firms described in the Uppsala internationalization model (e.g., Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975), where the internationalization process is incremental, the literature on international new ventures focusses on firms whose internationalization process occurs early in their history and represents a significant part of their operational capacity (e.g., Knight & Cavusgil, 1996; Oviatt & McDougall, 1994; Rennie, 1993). The early and significant internationalization process of these new ventures is at odds with the notion of ‘cultural distance’ in the international business literature – which generally translates into higher entry barriers or uncertainties for entering culturally distant societies relative to the home country of the focal firm (e.g., Hofstede, 1980; Kogut & Singh, 1988).

The cultural-distance-defying character of the international new venture has attracted the attention of scholars such as Hedlund and Kverneland (1985), Ganitsky (1989) and McKinsey and Co. (1993), who focussed largely on confirming the existence and characteristics of such firms. In particular, many scholars have been keen to delineate the differences between this type of firm and the staged-internationalizing firm. One perspective concentrates on the founding management and learning capacity of the organization. Some suggest that the experience

and exposure of the managers prior to the start of a new venture play a part in its early internationalization decision (e.g., Busenitz & Barney, 1997; Harveston, Kedia, & Davis, 2000; Madsen & Servais, 1997; Shrader, Oviatt, & McDougall, 2000), whereas others suggest that the fast-paced learning of these resource-constrained, technology-oriented firms allows them the early internationalization opportunity (e.g., Knight & Cavusgil, 2004; Zahra & George, 2002). In other words, the prior exposure of the founding managers or the inherent learning capacity of these firms reduces the uncertainty and/or cost of pursuing specific business opportunities abroad. It is this uncertainty, or the cost reduction potential, of these international business opportunities that makes them more promising to a new venture than the domestic home market. Hence the fast-internationalizing strategy can be survival-enhancing or even represent *the* profit-maximizing path for some firms. This perspective, we emphasize, is entirely consistent with the rational and profit-maximizing nature of the firm, a point that has not been emphasized in the international new ventures literature. Meanwhile, as the world becomes increasingly integrated, an increasing proportion of individuals will be aware of international business opportunities – but this will still likely not make all companies in the distant future born-globals.

Another stream of work arguing for the uniqueness of international new ventures is related to their business models. Many international new ventures are found to be involved in advanced, niche technologies or knowledge-intensive industries (e.g., Autio, Sapienza, & Almeida, 2000; Bell, 1995; Jolly, Alahuta, & Jeannet, 1992; Young, 1987). Implicit in this perspective is that dispersed customers and suppliers specializing in a niche technology in different countries can more easily understand (and trade with) each other than customers and suppliers in non-specialized, mass markets – the result of the latter being the traditional fragmentation of markets based on culture and geography. In other words, the cultural distance that impedes the conduct of business involving the general populace is overcome by the ‘domain-specific familiarity’ among specialists. It is then easier for those individuals with such knowledge to transact across geographic boundaries with their specialized counterparts

elsewhere. Thus, depending on the specific nature of the business, new ventures are likely subject to the influences of some combination of domain-specific familiarity and cultural distance when it comes to the internationalization decision.²

By combining these two perspectives, we can avoid having to make an *a priori* characterization of the international new venture as a distinct breed of firm. The possibility that international new ventures can in fact be quite similar to staged-internationalizing firms has been raised by Madsen and Servais (1997), who commented on the fact that, while the definition of fast-internationalizing firms relies on the official date of inception, the founding managers of international new ventures could have been exposed to international opportunities long before this date. In other words, the distinction between *early/fast* internationalizing and *staged* internationalizing can be blurred when this point is taken into account.

The similarities between international new ventures and traditional, staged-internationalizing firms were highlighted in a comparative study of over 100 companies in Australia by Kandasami and Huang (2000). This study found little difference in product uniqueness, technological sophistication, degree of customization or pricing advantages between these two groups (relative to their respective competitors). Madsen, Rasmussen, and Servais (2000) reported broadly consistent results.

These similarities between the supposedly distinct breeds of firm raise an interesting question: Why do some firms choose to stay domestic when they could easily have gone international at birth? In an attempt to answer at least part of this question, we include in our analysis both born-global firms and those that *could have but chose not to*.

As discussed later in the paper, constraints in our data from the intra-European airline industry lead us to define born-global firms based on the production capacity allocated for potential international sales. In this paper, we define a born-global firm as one that allocates at least 20% of its inaugural production capacity to international markets at inception. This definition, as we will demonstrate later in the paper, is broadly in line with others in the literature.

Economic Drivers of the 'Born-Global' Firm

In Kandasaami's (1998) review of the literature, two streams of economic drivers for internationalization can be traced to (1) environmental factors and (2) firm characteristics. With respect to environmental factors, the primary drivers relate to the size of the domestic market of the focal firm *vis-à-vis* the potential of the international market (as suggested by others, including: Ganitsky, 1989; Hedlund & Kverneland, 1985; Knight & Cavusgil, 1996), and the relative ease of access to the latter markets. This leads us to Hypothesis 1:

Hypothesis 1: Everything else equal, the larger the size of the home country market, the less likely it is that a new venture will choose to go international at inception.

Hypothesis 1 says that a new venture needs to trade off the cost of entering foreign markets against that of accessing its home country market. If the home country market is sufficiently large (and accessible) compared with the foreign markets, chances are that new ventures will be more likely to stay within the home market at inception.

From the perspective of access to markets, large urban centres³ are likely to have better access to the rest of the home country's market through better transport (e.g., highways, railroads) and communication links than small provincial towns, and those new ventures operating out of the large urban centres can benefit from such infrastructure. Such firms can quickly acquire efficient economic scale in their home urban centres and go after the rest of the home country, and then the international, market. The large urban centres are also more likely to be cosmopolitan than their provincial counterparts. All these factors increase the likelihood that those new ventures operating out of large urban centres will internationalize early compared with those operating out of small provincial towns. We therefore include two control variables in our model: the population of the city where a new venture is based, and the population share of this city relative to the population of the entire home market (to control for the 'centrality' of such urban centres in its country).

Another important economic driver concerns the production capacity of the new venture. If a venture is severely constrained in terms of its initial resources relative to its home country market, then the new venture can serve the market only in its immediate vicinity.⁴ This is more likely for firms located in the smaller provincial towns of its home country, because the cost of capital in such areas has been shown to be higher (Coval & Moskowitz, 2001; Grinblatt & Keloharju, 2001). If this inaugural capacity is significantly larger than the profit-maximizing demand in the home country market (i.e., minimum efficient scale translated into excess capacity), it makes sense for the firm to venture internationally at inception (McKinsey and Co., 1993; Rennie, 1993). Therefore our second hypothesis states that:

Hypothesis 2: Everything else equal, the larger the inaugural capacity of a new venture, the more likely it will be to choose to go international at inception.

Economic Determinants of Capacity Allocation

Once a new venture decides to internationalize – more specifically, to export – it needs to allocate production capacity to a set of international targets. Since we are not able to explicitly survey entrepreneurs' *perceived* opportunities, we rely on the observed outcome of the entry decision to indicate the relative attractiveness of the various international markets. It is implicit in this assumption that entrepreneurs, as profit-maximizers, would not accept an opportunity if a more attractive alternative presented itself.

Businesses are generally attracted to markets with historically high demand, largely because in these markets even those customers diverted from incumbent competitors could represent a considerable business volume. In the context of international business, given the relatively fixed cost associated with adapting a product to the local taste of a foreign country, the venture in a country with a larger demand market can spread this cost over a greater volume. Given a sufficiently large inaugural production capacity, a new venture would understandably be attracted to markets with demonstrated large demand if it chose to go international at inception:

Hypothesis 3: Everything else equal, the larger the size of an established market, the greater the inaugural production capacity an international new venture will allocate to it.

The *ceteris paribus* assumption behind Hypothesis 3 is particularly important from the perspective of a profit-maximizer, since any two markets with identical historical demand may involve starkly different levels of competition – with immediate impact on the profitability of entering these markets and hence on the production capacity allocated to them. Classical economic theory suggests that the number of competitors and the degree of rivalry in a particular market impact on the prices offered to customers (and hence profits to the firms). The effect of interfirm competition is also acknowledged in technology-intensive business environments (e.g., Zahra, 1996). While the number of competitors is easily observed, the degree of rivalry is more difficult. For simplicity, we rely on the former with respect to a new venture considering internationalizing at inception:

Hypothesis 4a: Everything else equal, the larger the number of incumbent competitors in a market, the lower the inaugural production capacity an international new venture will allocate to it.

Cultural and Socio-institutional Determinants of Capacity Allocation

Earlier, we reasoned that, while ‘domain-specific familiarity’ dominates when business transactions involve specialized knowledge and revolve around those individuals with such knowledge, the traditional socio-institutional determinants of a market entry decision should still dominate when business activities involve individuals with non-specialized knowledge. Here, we draw our insights from the organizational and international business literature.

According to Stinchcombe (1965), a *liability of newness* attends young organizations because they have not yet established the social acceptance (legitimacy) required for stakeholders to support their survival by conferring resources. Originating from both customers and suppliers,

there is enormous pressure for new ventures to quickly establish legitimacy through their market entry decisions, or face sanctions from actors in the organizational field (e.g., Meyer & Rowan, 1977).

The liability of newness is particularly salient where the norms and cognitive structures for the shared interpretation of meaning have been institutionalized. In other words, when new ventures enter a market that has already been institutionalized, they face greater pressures to engage in *isomorphic* behaviours on market entry (e.g., Greve, 1998; Haveman, 1993) – that is, copying the market entry behaviour of incumbents. In the eyes of potential customers (and suppliers) in the general populace, the isomorphic market entries *vis-à-vis* established incumbents help new ventures gain legitimacy and increase acceptance.

In the literature on isomorphism, the rate of market entry was demonstrated to be increasing at a decreasing rate as a function of the number of incumbents⁵ (i.e., the ‘inverted-U’ shape described in Haveman, 1993⁶). In our paper, we are concerned not so much with entry *rates*, but rather with the proportion of inaugural production capacity allocated to international markets. Since we do not find another hypothesis in the literature with closer relevance to ours than this, we hypothesize that a similar relationship on capacity allocation can be expected from the new industry entrants:

Hypothesis 4b: Everything else constant, an international new venture will allocate more capacity to a market with more incumbents than to one with fewer incumbents, but this increase in capacity allocation will decrease as the number of established incumbents increases (i.e., an inverted-U shape).

Hypotheses 4a and 4b act in opposite directions with regard to the number of incumbent competitors in a market.

Once a new venture decides to go international, and appeals to the general market for its products, it will be exposed to traditional international business pressures. The literature is replete with studies on how cross-border business transactions can incur different sets of costs compared with those taking place domestically (e.g., Eden & Miller, 2004; Zaheer & Mosakowski, 1997). While some of these costs and opportunities may

stem from the different political and economic structure of the foreign countries involved, many of them can be traced to the efforts expended to understand and adapt the business to the cultural norms and value systems that prevail in a particular country (Erez & Earley, 1993; Hofstede, 1980). For example, variations in educational qualifications, religious observances and languages may increase the costs of human resource management for firms that enter a foreign country (Schwartz, 1999).

The perceived costs associated with entering a market with different cultural and/or socio-institutional settings could result in a new venture being more cautious in entering international markets, leading us to Hypotheses 5a and 5b:

Hypothesis 5a: Given the same size of an established market, the amount of production capacity allocated to culturally distant countries will be less than the amount of production capacity allocated to culturally similar countries.

Hypothesis 5b: Given the same number of incumbents in an established market, the amount of production capacity allocated to culturally distant countries will be less than the amount of production capacity allocated to culturally similar countries.

We loosely use the term ‘cultural distance’ here to describe *whether the cultural and socio-institutional norms in different regions or countries are similar*. This concept has been widely used among researchers in studies in the international business area (e.g., Kogut & Singh, 1988). We discuss the implementation issues for cultural similarity later.

Methods

Data

An important component of this study concerns the decision of new ventures to stay at home or go international at birth. We therefore need data from an industry with examples of firms that have done both at

launch, in addition to the associated market entry information. In order to control for endogeneity, we also need an industry in which technological change is held relatively constant across the firms because product innovators are likely to face a different set of competitors and constellation of complementary products.⁷ As a result of these concerns, we draw our data from the intra-European scheduled passenger airline industry – one in which new ventures can be international or domestic at inception, and with a product that appeals to the general populace.

In this industry, a series of deregulatory moves have turned the European Union (EU) into a single air transport market and so have reduced systematic bias from country-level differences in air travel regulations. The fact that airlines rely on the general populace for their business bears resemblance to other products such as mobile telephones, hearing implants and desktop computer aids that have produced ‘born-global’ firms reported in the literature (Jolly et al., 1992; McKinsey and Co., 1993).

Prior to the latest wave of liberalization, the entry and exit, capacity, frequency and pricing decisions on each route (or city-pair market) in the industry were highly regulated by the governments of the European Common Market. On international routes within Europe, revenue pooling and sharing agreements between designated flag-carriers were common, which effectively limited price competition while encouraging non-price competition in services. Within each country, similar regulation meant that traditional flag-carriers enjoyed market dominance in a protected environment.

In 1993 the final package of liberalization measures was introduced, in which full pricing freedom throughout all intra-European markets was granted. The same package allowed airlines of an EU member country to fly any route between any two EU countries and, starting in 1997, any intra-EU country route, without requiring the airline to start or end the route in its home country. As a result of this liberalization, from about 1996 an increasing number of new entrants began offering air service in the single market. This sea change in the regulatory framework provided us with an opportunity to examine the inaugural market entry decisions of new ventures that were set up to take advantage of the liberalized industry environment.

Our choice of the intra-*European* airline industry has several advantages. First, the historical lack of pure connecting hubs (with little local originating and destination traffic) *within* the European continent and the higher prevalence of non-stop intercity air service in Europe mean that passengers in general are less likely to have to make a connection or even a same-plane *en route* stop when travelling between moderately sized cities.⁸ The increasing prevalence of scheduled non-stop services operated by European carriers further increases the likelihood of passengers travelling directly between any two cities (Fan, 2006).

Second, the traditionally national roots of many incumbent European carriers mean that intra-European route networks are slow to change. It is less likely that incumbents will drastically change their route structure just to compete with a small start-up (the additions or removals of a connecting hub by a US carrier, in contrast, may impact on many city-pair markets in a relatively short period of time). Indeed, our survey of the authoritative industry publication *Official Airline Guide (OAG)* reveals very few route changes by incumbents that can be traced to the emergence of a new carrier.

Third, there is reasonable variation in socio-institutional and cultural norms within Europe, which from a statistical standpoint improves the robustness of the measurement model. So even though English is the operational language in the aviation industry, airlines need to adapt their marketing and service offerings to customers with different cultural mores. For example, the forms and language of advertising are likely to be specific to the host country region; the degree of reliance through different sales intermediaries (e.g., travel agencies, packaged tour agencies) is also different across Europe. In fact, the fare levels and conditions, distribution practices (e.g., direct or via third parties) and marketing campaigns for the same airline often exhibit marked differences from one country to another (Fan & Leung, 2005).

To isolate the impact of established business ties and the associated information advantage enjoyed by incumbents, we choose to focus on air carriers that began scheduled passenger service as independent marketing *and* operating firms during the deregulated era.⁹ This eliminates former and existing regional affiliates of major carriers from our study. The *OAG*, or formerly the *ABC Airline Guide* in parts of the world, contains a

detailed account of passenger flight schedules. We take a week's worth of schedule every quarter (February, May, August and November) from 1996 to mid-2004 from the OAG, and obtain a list of new carriers (those with no operations in the previous quarter) formed within this period. This period captured two peaks in terms of new airline entry activities: one in early 1997 (up to eight new entries in Quarter 1), coinciding with the last package of liberalization, and in mid-2002 (up to 10 new entries in Quarter 2), after the new entrants had waited for the post-9/11 economic outlook to clear.

For both incumbent and new airlines, the liberalization permitted instant freedom to expand broadly within the EU, subject to the operational constraints of local airports. While the primary airports serving major cities such as London and Frankfurt generally have few time slots available for new flights,¹⁰ secondary airports serving these cities tend to have plenty of capacity. More importantly, the naming of these secondary airports (e.g., London Stansted, Frankfurt Hahn) reveals the competitive intent of the operating carriers and/or the aspirations of these airports to serve parts of the larger metropolitan area. Using this fact, we define a pair of cities (with each city consisting of all of its constituent airports) connected with scheduled non-stop passenger service as a unit of 'market'.

Many of the new airlines compete with incumbents through a combination of lower prices (with minimal frills) and more convenient schedules, regardless of whether or not they identify themselves as 'low cost' or discount carriers. Whereas some new carriers experimented with providing levels of in-flight service¹¹ and distribution channels (e.g., more reliance on direct sales via the Internet) that were different from those of the incumbents, these features were quickly incorporated by some of the latter.¹² In any case, the intra-European passenger air travel market consists of flights no longer than 4 or 5 h in duration, with schedule convenience and price likely to be strong determinants of passenger choice rather in-flight amenities.

Among the entrants in the study, 15 labelled themselves as 'low-cost carriers', but did not exhibit substantially different international market entry patterns than others. Among these 15 low-cost carriers, five were set up using funds from their incumbent parent, but were operated as

entirely independent entities. Removing these from the sample did not qualitatively change the results, and therefore they are included in the ensuing analysis.

We eliminated ventures that focussed on helicopter operations, and also those that had previously started operations but for some reason were not listed in the February 1996 issue of the OAG. We also eliminated those ventures that experienced a corporate change, such as a re-branding or re-launch under a new service concept (but retained the same airline code with the authoritative International Air Transport Association), and hence were not truly new ventures.

In our sample, several carriers operated intra-European flights primarily as a continuation of intercontinental itineraries, and the low weekly frequencies indicated that their focus was on intercontinental rather than intra-European traffic: these were also dropped from the sample. Two carriers that were set up as national or territorial carriers (and thus were not necessarily profit-maximizing) were also dropped. This procedure resulted in 135 new entrants for further analysis. For these 135 new entrants, we collected all their market entry and capacity decisions between 1996 and 2004. Table 5.1 shows some of the descriptive statistics for these carriers.

Operationalization of International New Ventures

The seminal articles of Oviatt and McDougall (1994) and McDougall, Shane, and Oviatt (1994) provided a typology to understand international new ventures according to their different degrees of international involvement: from mere market entries as exporters to having international operations as part of a firm's value chain. However, it is generally difficult to gauge the international involvement of a new venture other than export (e.g., sourcing from foreign suppliers). In fact, one of the earliest references to the term 'born-global' describes one such firm as one that '[views] the world as [its] marketplace from the outset and [sees] domestic market as a support for [its] international business' (McKinsey and Co., 1993). Many scholars have since based their definitions of born-globals around export activities. Therefore the focus on export, or rather

Table 5.1 Descriptive statistics of new carriers

<i>Attributes</i>	<i>Statistics</i>
<i>Total number of new ventures</i>	135
Started international service at birth	67
Started international service to same-language countries	12
<i>Capacity of new venture at birth (average seats per week)</i>	2162
Average weekly frequency	29
Average flight distance (km)	607
<i>Capacity of incumbents faced by each venture (average seats per week)</i>	11,090
Average weekly frequency	95
Number of <i>effective</i> incumbents for each entrant (average, route-weighted, excluding entrants exclusively serving new routes)	3.5
<i>Number of new ventures based in different countries</i>	
Italy	25
Germany	21
United Kingdom	18
Sweden	12
France	11
Spain	9
Greece	7
Netherlands	5
Austria	4
Finland	3
Others	20

some measure of export intensity (e.g., export sales as a proportion of total sales), alongside the speed of internationalization, has been used to define international new ventures.

In the McKinsey study on Australian exporters (1993), the so-called ‘born-globals’ on average exported 75% of their total sales within 2 years of operation. Knight (1997) and Madsen et al. (2000) define ‘born-globals’ as firms with at least 25% of their sales to foreign countries within 3 years after their inception (after 1976). Kandasami and Huang (2000) define ‘born-globals’ as firms that derive at least 10% of their total sales from international activities within the first 3 years of start-up.

In addition, some finer definitions have been suggested. Kandasami (1998) suggests that a born-global firm should have business activities in at least five countries and 40% of export sales within the first 2 years of commercial sales, while a born-international firm can have business activ-

ities in fewer than five countries. Lummaa (2002) suggests that the number of countries is not a sufficient definition for born-globals. Instead, a born-global firm should have business activities in at least two cultural clusters, as defined by Hofstede (1980), and geographical regions.

In our survey of new ventures of the European airline industry, it is difficult to ascertain the ratio of foreign to total sales, since virtually all of these firms are privately held at inception. It is also difficult to retrace their exact date of business registration, since a significant portion of them have ceased operations. However, we can calculate the production capacity (in terms of seat capacity per week) allocated by these new ventures to international markets as a proxy and record when their operations commenced (i.e., commercial 'production'). Among the 135 new carriers starting operation between 1997 and 2004, 67 – or just under half – operated international itineraries at inception. While all of these carriers are legally permitted to serve domestic routes in a foreign country, or international routes between two foreign countries (within the EU), only two carriers did so within our period of study, and these were probably the continuation of the same flight itineraries from their home countries. On the surface, this finding lends credence to the staged-internationalization conjecture, in which new ventures try to build a critical mass of operation around their home cities and countries first before expanding abroad.

Among our 135 new industry entrants, 67 of them launched international service at their inauguration (of commercial production). All of these 67 carriers allocated at least 20% of their inaugural capacity to international markets, and 53 (or about 80%) of them allocated more than half their capacity to international markets at inception. Assuming that these 67 carriers derived only half of their business in their international operations from 'foreign' customers, all of these carriers can be considered 'born-globals' (or at least 'born-internationals') by the definition of Kandasami and Huang (2000), based on their proportion of foreign sales. In terms of their length of time to establish such a scale of international operation, our 'born-globals' in fact meet an even stricter criterion, as their production for international sales is required right at their commercial launch instead of within several years of initial sales. This means that, in spite of the slightly different definition for a 'born-global' firm in

this paper, the actual ‘born-global’ firms counted in our sample should be broadly similar to others in the literature based on different definitions. As such, we count all these 67 carriers as ‘born-globals’. While 67 constitutes a significant proportion of our total population of 135 industry entrants, the number itself is still relatively small in terms of robust statistical analysis. We keep this in mind when interpreting the results of the regression analysis.

The average city-pair market was served quite frequently by all the new carriers, with more than a daily flight even at the early stage of development, indicating a significant focus on business rather than leisure travelers. This pattern suggests that the passengers flying these carriers are less likely to be entirely of the vacationer type from the same home country, and these carriers needed to adapt their business practices to the potentially different socio-institutional settings and cultural mores of the individual countries or regions served. A careful examination of these new ventures confirmed the absence of charter-like operators, which specialize in transporting mass tourists to ‘sun-and-sea’ destinations.

Moreover, the pattern of initial market entry turns out to be relatively persistent over successive quarters. For instance, among the 135 carriers, only 25 (less than 20%) withdrew service in their second quarter of operation from any of the routes started in the first quarter, with the median number of routes withdrawn being exactly one. Similarly, only 21 carriers in their third quarter of operations withdrew service from any routes operated in the preceding quarter. Overall, these market withdrawals represent marginal fine-tuning of the route networks of these new ventures rather than largescale strategy reversals. In other words, the born-international carriers did not revert to becoming purely domestic carriers, or domestic ones to substantially international carriers, within the first few years from inception.

Model

We model the international market entry decision-making of a *de novo* carrier in a two-step process: first we allow the carrier to decide whether or not to go international at birth, and then, conditional upon that decision, to choose the amount of capacity to allocate to the international

market. The econometric model is run such that the estimation for the two stages is conducted simultaneously. With this model, we are able to *infer* the decision-making process of new ventures from the observed results of those that choose not to go international at birth and those that choose to do so.

This model follows the procedure proposed by Heckman (1979). In the first stage, a discrete, probit model examines the factors that influence the decision for new ventures to go international at inception. For those choosing to do so, the extent of international entry at birth is examined with a linear regression in the second stage.

In the first stage of this model, we model the ‘go international’ decision by letting $CrossBorder_j$ be a dummy variable that takes on the value 1 if the new venture j enters an international market at birth, and 0 otherwise. Each new venture j then weighs the decision whether or not to go international at birth based on an unobserved index variable $CrossBorder^*_j$, which varies according to a vector of attributes \mathbf{w}_j and subject to stochastic error u_j :

$$CrossBorder^*_j = \mathbf{W}'_j \boldsymbol{\gamma} + u_j \quad (5.1)$$

$$CrossBorder_j = \begin{cases} 1 & \text{if } CrossBorder^*_j > 0 \\ 0 & \text{if } CrossBorder^*_j \leq 0 \end{cases} \quad (5.2)$$

where $\boldsymbol{\gamma}$ is a vector of coefficients, and u_j is the stochastic error.

For those firms going international at birth ($CrossBorder_j = 1$), their average capacity (\bar{K}) allocated to international markets would depend on the observed demand and pre-existing market structure in the second stage of the model:

$$\bar{K} = \mathbf{x}'_j \boldsymbol{\beta} + \varepsilon_j \text{ if } CrossBorder = 1$$

where \mathbf{x}_j is a matrix of observed market conditions and institutional factors, $\boldsymbol{\beta}$ is the corresponding vector of coefficients, and ε_j is the associated stochastic error.

Assuming that u_j and ε_j are jointly normally distributed with zero mean, standard deviations of 1 and σ respectively, and correlated by ρ , a maximum likelihood estimation (MLE) can be used to arrive at consistent estimates for β (and \mathbf{w}).

Measures

For the dependent variable \bar{K} , we take the natural logarithm of the average passenger capacity (in seats per week) allocated by each carrier to an international city-pair within the EU. We use the logarithmic form because it places more emphasis for an equal magnitude of change when the underlying variable is small than when the underlying variable is large (i.e., small changes in a large market are not as likely to affect a new entrant's decision as big changes in a small market).

Based on the hypotheses formulated earlier, we have three independent variables (\mathbf{w}_j) to explain the initial *CrossBorder* decision (corresponding to Hypotheses 1 and 2, respectively):

- *HOMECTRYSIZE* measures the geographic area of the home country market for air transport services facing the new venture. This is an approximate measure of *opportunity cost* in geographic terms of going international at inception. We observe that, in general, geographically expansive and sparsely populated countries have a more critical need for air transport than geographically concentrated and crowded countries (perhaps where established rail and road networks serve a similar purpose at lower cost). Hence we use the (logarithmic) land area of a new venture's home country. For products with sales that do not have geographic dispersion implications, the total population count should suffice.
- *CAPACITY* measures the natural logarithm of the total inaugural capacity (seats per week) of the new venture. We use this measure as a proxy for start-up capital because all the ventures are private entities at birth and so no public information on available financial capital is available. Based on the relatively low marginal cost of operation (Caves, Christensen, & Tretheway, 1984), new carriers tend to maximize the

size of their inaugural networks, subject to the availability of financial resources. Hence the inaugural seats/week is a good proxy for the relative size of start-up financial capital and the production capacity at inception.

- *HOMEBASESHR* is the control variable that measures the size of the immediate home base of the new venture as a portion of its total domestic market. This helps standardize the different population densities that may occur in different countries: new ventures founded in two cities with the same population and same home country size may still exhibit different propensities to internationalize early owing to different levels of ‘centrality’ of the two cities and hence their international orientation. Here we use the ratio of the population of the city of the new venture’s operational headquarters (defined as the city with the most weekly departure seat capacity operated by the new carrier) to that of its entire home country. A high *HOMEBASESHR* value also means the lack of comparable urban agglomerations elsewhere within the home country to spread any fixed cost of production – thus making other agglomerations beyond the home country attractive. We stress that population of a city is merely a *proxy* variable for the amount of economic activity represented by the city. We use the population statistics for the cities concerned, but recognize that airports serving a particular city also cater to larger catchment areas around it.

To investigate the average capacity allocated to each international city-pair market (\bar{K}), we use the following independent variables (\mathbf{x}_i):

- *PASTDEMAND* measures the effect of historically demonstrated demand of an existing market (city-pair). Here, we use a proxy variable consisting of the natural logarithm of the aggregate weekly seat capacity operated by all carriers in the quarter prior to the new venture’s entry. For carriers operating in two or more markets, we use the sum of the competitors’ aggregate supply in each market weighted by the proportion of the new venture’s inaugural capacity serving that market. A previously unserved market is assumed to have zero *PASTDEMAND*.

- *NUMRIVAL* measures the number of *effective* existing incumbents already serving a market. Here, we use the inverse of the Hirschmann–Herfindahl Index (HHI) calculated on the weekly seat capacity supplied by each incumbent. The HHI accounts for the uneven size of incumbents, giving more weight to large incumbents with the power to retaliate unilaterally. In other words, in a market with three operators, each with the same market share, the HHI is $3 \times 1/3^2 = 1/3$, which means that the effective number of incumbents is 3. For carriers operating in two or more markets, we use the inverse HHI for each market weighted by the proportion of the new venture's inaugural capacity serving that market.
- *NUMRIVAL2* measures the potential non-linearity of *NUMRIVAL*, which is simply the quadratic (squared) term of *NUMRIVAL*. This treatment is consistent with Haveman (1993). We make the same adjustment for *NUMRIVAL2* as we do for *NUMRIVAL* for carriers operating in two or more markets.

While the concept of cultural distance is understood by the international business research community, the normative implications of formal measures of cultural distance on a firm's strategy, along with its proposed refinements (see Brett & Okumura, 1998; Brouthers & Brouthers, 2001) have been relatively mixed (Tihanyi, Griffith, & Russell, 2005). In particular, the lack of a consistent directional influence on entry mode choice (e.g., Barkema, Bell, & Pennings, 1996; Erramilli, Agarwal, & Kim, 1997), survival and performance (e.g., Luo & Peng, 1999; Morosini, Shane, & Singh, 1998; Park & Ungson, 1997) has been a source of concern for researchers.¹³

As a result of the ongoing ambiguity in implementing cultural distance as it applies to international new ventures, and because this is not the theoretical focus of this paper, we choose to implement this construct via a simple, intuitive measure – whether or not two countries share a common linguistic heritage. We make a distinction between the operational language (i.e., the *lingua franca* of business) of a particular industry, which is often English when individuals from different language groupings have to communicate, and the *linguistic heritage* of a particular region (where the customers are), which is often reflected in the official

native language(s). In the latter, we refer to the language that individuals from the same region default to when they have to communicate with each other, and the common language used in government documents and official communication. Linguistic anthropologists have known for some time that regions with linguistic commonalities share the ways in which social organizations are constructed (e.g., Duranti et al., 2003; Ochs & Schieffelin, 1984; Silverstein, 2004). For instance, the legal systems of English-speaking countries around the world are more similar to each another than to French-speaking ones; the academic system of university-preparatory ‘gymnasias’ is more likely to be found in German-speaking countries such as Austria and Switzerland. In other words, linguistic commonality often points to other similarities in the social organizations of the regions, and these in turn correlate with specific cultural mores and norms.

By focussing on linguistic heritage, we allow triangulated relationships not possible in the conventional measures of cultural distance. For instance, we consider the Flemish-speaking part of Belgium and the Netherlands to be in the same linguistic zone, in the same manner that the French-speaking part of Belgium and France are in the same zone. We treat Germany and Austria as one linguistic zone, as the two countries share the same written form of the German language. While we acknowledge that the use of linguistic heritage is a coarse proxy for the underlying cultural and social institutions of a region, it is arguably the single most appropriate measure given the limited degrees of freedom afforded by our relatively small sample. To this end, we use this variable to indicate whether two markets are culturally similar or not:

- *LANGUAGE* measures the differences in linguistic heritage between the home country of a new venture and its international EU market. This measure minimizes computational complexity and hence potential measurement error (Mezias et al., 2002). We simply indicate whether an international market has the same linguistic heritage as the new venture’s home country (*LANGUAGE*=1 if this statement is true, and 0 otherwise). By linguistic heritage we mean there is a commonality in the official native language(s) of the respective countries. For carriers operating in two or more markets, we use *LANGUAGE* on

each market weighted by the proportion of the new venture's inaugural capacity serving that city-pair market, and then sum that number across all markets served by the carrier (*LANGUAGE*=1 if all its international citypair markets straddle countries that speak the same official languages). We interact *LANGUAGE* with *PASTDEMAND*, *NUMRIVAL* and *NUMRIVAL2* to investigate the impact of culture on the international capacity allocation decisions of the new ventures.

As for the possible impact of fixed effects, we originally included dummy variables for year and country effects, but because these turned out to be statistically insignificant we dropped the variables from further analyses in order to preserve degrees of freedom for our model. With our relatively small sample size, these variables consumed valuable parameter space in the regression analysis, and hence are not included in the models discussed in this paper. We kept one control for \bar{K} : the natural logarithm of the city population (*CITYPOP*) of the operational headquarters of the new venture, since we anticipate that (given everything else constant) the larger a new carrier's immediate home market, the more internationally oriented the city may be and the more likely it will be to allocate capacity to the international market, given that it chooses to 'go international'. Table 5.2 shows the Pearson's correlation matrix for the independent variables.

To check for multicollinearity, we rely on the variance inflation factor (VIF), which is the number of times the variance of the estimated coefficients would be increased compared with the hypothetical case where there was no correlation among the variables (Neter, Wasserman, & Kutner, 1985). The VIFs would be 1 if there was no correlation, and values of VIF exceeding 10 are often considered to be indicative of multicollinearity. For both the discrete and linear stages of our econometric model, the highest VIF in the probit stage is only 2.1, and in the linear stage it is only 1.3 in the absence of the interaction variables. The maximum VIF for the entire model, excluding *NUMRIVAL2* and *LANGUAGE NUMRIVAL2* is 7.8, showing that the effect of multicollinearity is not a serious concern (the source of the high VIF was between *PASTDEMAND* and *LANGUAGE PASTDEMAND*). The *NUMRIVAL2*

Table 5.2 Pearson's correlation matrix for the independent variables

	Mean	SD	1	2	3	4	5	6	7
1 HOMECTRYSIZE	285 ^a	154 ^a	1.000						
2 CAPACITY	2163 ^a	3843 ^a	0.049	1.000					
3 HOMEBASESHR	0.051	0.118	-0.720	0.041	1.000				
4 CITYPOP	952,327 ^a	1,441,455 ^a	0.121	0.264	0.169	1.000			
5 PASTDEMAND	11,090 ^a	21,340 ^a	0.112	0.628	0.063	0.330	1.000		
6 NUMRIVAL	1.76	2.31	-0.025	0.240	0.076	0.129	0.338	1.000	
7 LANGUAGE	0.054	0.211	-0.168	-0.086	0.029	0.011	-0.086	0.297	1.000

SD, Standard deviation.

^aMean and standard deviation of the variable before taking its logarithmic value.

variable by construction correlates highly with *NUMRIVAL* (its square root). However, removing the *NUMRIVAL2* and *LANGUAGE NUMRIVAL2* variables from the analysis does not significantly change the results of the analysis. We show the results for both including and excluding the *NUMRIVAL2* and *LANGUAGE NUMRIVAL2* variables.

Results

Three two-stage regression models based on Heckman (1979) were used to test our hypotheses. In addition, we report two one-stage models, one modelling only the probit stage of the two-stage models, and the other modelling only the linear stage, for robustness testing. Table 5.3 shows the coefficient estimates and standard errors of these models.

Model 1 in Table 5.3 includes only Eqs. (5.1) and (5.2), that is, the probit portion (first stage) of the two-stage model. The estimates need to be interpreted with caution because of its one-stage nature. Nevertheless, it can be observed that *HOMECTRYSIZE* bears the expected negative sign and is statistically significant ($P < 0.01$), meaning that the larger the size of the home market, the less likely it is that a new venture will be 'born-global'. *CAPACITY* has the expected positive sign but is not statistically significant. *HOMEBASESHR* has a positive effect and is significant ($P < 0.10$) but, as discussed earlier, its ultimate directional effect depends on the geography around the home city of the new venture.

Model 2 in Table 5.3 shows the result of the two-stage model that includes only the control variables (*HOMEBASESHR* in the probit stage and *CITYPOP* in the linear stage). As expected, *CITYPOP* shows a positive sign (i.e., a larger home city market encourages a new venture to allocate more capacity to international markets once it is 'born-global') and is statistically significant ($P < 0.01$). The coefficient for *HOMEBASESHR* is still positive statistically significant ($P < 0.01$).

Model 3 in Table 5.3 includes back the variables *HOMECTRYSIZE* and *CAPACITY* in the probit (first) stage of the regression, and shows that both variables are now statistically significant ($P < 0.01$) while retaining the same signs as in Model 1. In other words, Hypothesis 1 (that new ventures are more likely to be 'born-global' from a small country than

Table 5.3 Regression coefficient estimates

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
<i>Probit-stage</i>									
Intercept	1.778* (1.032)	-0.447 (1.324)	0.196 (0.964)	0.457 (1.133)	1.022** (0.441)	0.363 (0.963)	0.503 (0.660)	0.793 (0.667)	—
HOMEETRYSIZE	-0.508*** (0.165)	—	-0.403*** (0.125)	-0.445** (0.145)	-0.472*** (0.055)	-0.438*** (0.129)	-0.438*** (0.058)	-0.462*** (0.046)	—
CAPACITY	0.120 (0.074)	—	0.296*** (0.068)	0.292*** (0.073)	0.249*** (0.083)	0.298*** (0.074)	0.291*** (0.067)	0.271*** (0.084)	—
HOMEBASESHR	4.964* (2.943)	8.582*** (2.847)	-0.626 (1.865)	-0.440 (2.452)	-3.60*** (0.674)	-0.238 (2.714)	-3.390*** (0.562)	-3.473*** (0.685)	—
<i>Linear-stage</i>									
Intercept	—	-0.330** (0.145)	3.184*** (0.950)	3.649*** (1.040)	3.795*** (0.388)	3.451** (1.091)	4.762*** (1.102)	4.188*** (0.935)	1.691 (1.282)
CITYPOP	—	0.391*** (0.009)	0.258*** (0.072)	0.205** (0.091)	0.200*** (0.039)	0.213** (0.091)	0.122 (0.093)	0.168 (0.082)	0.266** (0.104)
PASTDEMAND	—	—	—	0.047 (0.034)	0.130*** (0.005)	0.067 (0.050)	0.156*** (0.032)	0.135*** (0.017)	0.0950 (0.063)
NUMRIVAL	—	—	—	-0.059* (0.035)	-0.390*** (0.112)	-0.110 (0.141)	-0.485*** (0.150)	-0.371*** (0.015)	-0.044 (0.332)
NUMRIVAL2	—	—	—	—	0.014*** (0.005)	0.003 (0.007)	0.019 (0.028)	—	-0.005 (0.040)
LANGUAGE	—	—	—	—	—	-0.364 (0.399)	—	—	—
LANGUAGE with PASTDEMAND	—	—	—	—	—	—	-0.292***	-0.084***	0.048
NUMRIVAL	—	—	—	—	—	—	1.169***	0.315***	-0.216

(continued)

Table 5.3 (continued)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
NUMRIVAL2	—	—	—	—	—	—	(0.328)	(0.019)	(0.511)
Log-likelihood (LL)	-80.361	-176.483	-162.373	-160.535	-156.827	-159.967	-155.011	-155.945	0.015 (0.043) $R^2 = 0.300$
Change in LL from previous	—	***	***	—	*	*	*	—	—
Change in LL from Model 2	—	—	***	***	***	***	***	***	—
Change in LL from Model 4	—	—	—	—	*	—	—	—	—
Change in LL from Model 5	—	—	—	—	—	*	—	—	—

Standard errors in parentheses.

***Statistically significant at 0.01; **statistically significant at 0.05; *statistically significant at 0.10.

from a large one) and Hypothesis 2 (that larger initial production capacities increase the probability of a 'born-global') are confirmed. The log-likelihood of Model 3 is also significantly ($P < 0.01$) different from that of Model 2, which in turn is significantly different from that of Model 1 ($P < 0.01$). Interestingly, the coefficient for *HOMEBASESHR* at the probit stage is now negative and not significant.

In Model 4, two more variables – *PASTDEMAND* and *NUMRIVAL* – are included in the linear (second) stage of the regression, but the quadratic term *NUMRIVAL2* is omitted. The coefficient for *NUMRIVAL* is statistically significant ($P < 0.10$) and of the expected negative sign – confirming Hypothesis 4a – but the coefficient for *PASTDEMAND* is not. Based on the log-likelihoods, Model 4 is not significantly different from Model 3 ($P < 0.368$).

In Model 5, the result of the two-stage model with all the variables, including the quadratic term *NUMRIVAL2* but excluding the effect of *LANGUAGE*, is reported. The log-likelihood of this model is significantly different ($P < 0.01$) from that of Model 2 (with only the control variables) after taking into consideration the additional variables. However, it is just outside the criterion for weak significance from Model 3 ($P < 0.136$), possibly because of the low number of observations (only 67 out of the 135 carriers can be relied upon for the linear stage of the regression). Nevertheless, the estimated coefficients for all the new variables added since Model 3 (*PASTDEMAND*, *NUMRIVAL* and *NUMRIVAL2*) are statistically significant ($P < 0.01$), and the overall regression has a better fit than Model 4 (without the quadratic term *NUMRIVAL2*) based on the difference in log-likelihoods from Model 3. In other words, Model 5 confirms the quadratic effect of *NUMRIVAL2* – but the signs of *NUMRIVAL* and *NUMRIVAL2* are the opposite of those expected in Hypothesis 4b. Considering that *NUMRIVAL* is usually between 1 and 5 for the intra-European air transport market, the overall influence of the increasing number of incumbents on the capacity introduced to the market by the new venture is still negative. In other words, international new ventures cautiously reduce the capacity allocated to highly competitive markets when compared with less competitive ones. This shows that the impact of increased competition dominates that of isomorphic mimetic entry on capacity allocation, confirming

Hypothesis 4a and not 4b. Moreover, the estimated coefficient of *PASTDEMAND* is positive and significant, confirming Hypothesis 3.

In Model 6, the primary effect of the *LANGUAGE* variable is added by itself. The *LANGUAGE* variable by itself is not significant, as its interactive effects with *PASTDEMAND* and *NUMRIVAL* are potentially offsetting each other (*PASTDEMAND* has a positive effect on international capacity allocation, whereas *NUMRIVAL* has a negative one). Model 6 in fact has a worse fit ($P < 0.493$) than Model 5 ($P < 0.136$) when compared with Model 3 (or similarly with Model 2).

In Model 7, the primary effect of *LANGUAGE* is removed, and instead its interaction effects with *PASTDEMAND*, *NUMRIVAL* and *NUMRIVAL2* are included. The log-likelihood of Model 7 is not significantly different from Model 5 without the interaction terms (probably because of the even smaller sample size with the interaction effect), but is still statistically different from Model 2 with only the control variables ($P < 0.01$).

By implicitly separating those countries with low cultural/institutional similarities, the *LANGUAGE* interactions in Model 7 reveal some interesting decisions made by the new ventures. Compared with the general economic effect in Model 5, the coefficients of *PASTDEMAND* and *NUMRIVAL* still bear the expected signs and are statistically significant ($P < 0.01$). The coefficient of *NUMRIVAL2*, however, is no longer significant. The *LANGUAGE*-interacted terms, however, show a different pattern of market entry. First, the coefficient of *LANGUAGE* \times *NUMRIVAL* is strongly positive in magnitude and statistically significant ($P < 0.01$), whereas that of *LANGUAGE* \times *NUMRIVAL2* is negative but statistically insignificant (the same is true for the sum of the coefficients of *LANGUAGE* \times *NUMRIVAL* and *NUMRIVAL*, etc.). This result bears only a passing resemblance to the quadratic relationship hypothesized by Haveman (1993), as the quadratic term has a small coefficient and is not statistically significant. Second, the coefficient of *LANGUAGE* \times *PASTDEMAND* is negative and statistically significant ($P < 0.01$), suggesting that these new ventures are disproportionately allocating less capacity to larger markets that are culturally similar to their home country. This may indicate that the new carriers simply want to be 'present' in large existing markets, perhaps in search of legitimacy.

In comparison, new ventures in their quest to boost their legitimacy behave differently in linguistically similar *vs* linguistically different markets. In culturally similar markets (i.e., interacted with the *LANGUAGE* variable), new ventures allocate more capacity (confirming Hypothesis 4b) as the number of established competitors increases (in a mimetic, isomorphic manner). In linguistically different markets (i.e., not interacted with *LANGUAGE*), the capacity allocated declines with each incremental competitor (confirming Hypothesis 4a). In other words, market entry behaviour appears to be more cautious as the number of competitors increases in markets with no linguistic similarity (consistent with Hypotheses 5a and 5b). This demonstrates the twin challenges of new ventures in dealing with economic and social legitimacy costs of entry.

The coefficients estimated in Model 7 can be illustrated in graphical terms. Figure 5.1 shows the probability of new ventures going international at inception for a small number of representative countries based on geographical area (corresponding to the *HOMECTRYSIZE* variable, using countryaverage parameters for the other variables). The gradually declining probability of firms being ‘born-global’ as the country size increases demonstrates the fundamental influence of economic geography. Figure 5.2 shows how much capacity will be allocated to an established international market by a ‘born-global’ firm as a function of the

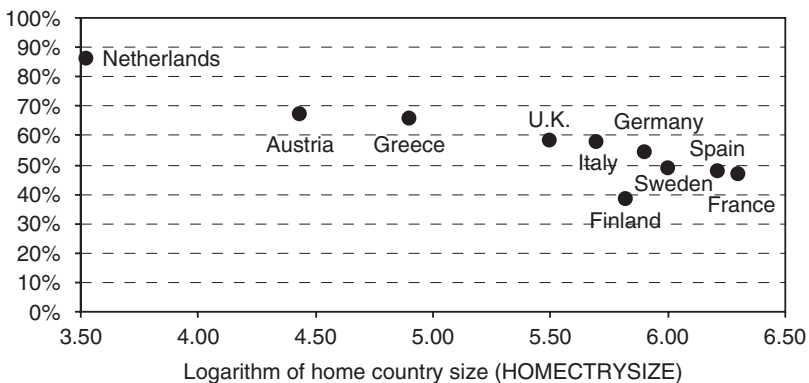


Figure 5.1 Probability of new ventures going international at birth (Model 7). Logarithm of home country size (*HOMECTRYSIZE*)

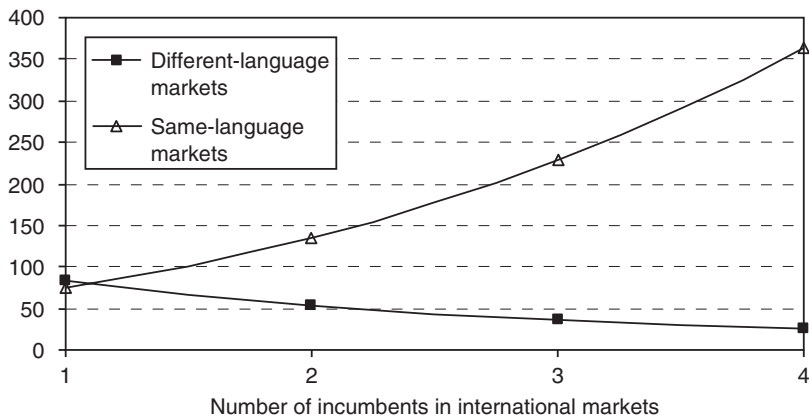


Figure 5.2 Capacity allocation to established markets by new ventures (Model 7). Number of incumbents in international markets

number of incumbents. Clearly, the new entrants behave differently in markets linking two countries sharing a linguistic heritage than in markets that do not.

Model 8 in Table 5.3 is the same as Model 7 except for the exclusion of *NUMRIVAL2* and *LANGUAGE* × *NUMRIVAL2* (these correlate highly with *NUMRIVAL* and *LANGUAGE* × *NUMRIVAL* by construction). The two models show qualitatively similar results.

Model 9 in Table 5.3 is a robustness check of the two-stage selection approach we used in the analysis. It shows how inconsistent the coefficient estimates of a simple ordinary least-square regression would be had we simply included in our sample only those new carriers that entered international markets at inception and excluded the rest of the carriers that chose to remain domestic (i.e., skewed results would be obtained if one started from a censored sample).

Discussion

In this paper we focus on the pattern of inaugural international market entry of new ventures, and show that these firms need not be a distinct breed as far as socio-economic and cultural influences are concerned. We

demonstrate that the decision to be 'born-global' is influenced by the size of the home market of the new venture and by its inaugural production capacity, as well as by economic forces (e.g., level of competition) that also influence other firms that stage their international entry decisions. If an international new venture relies on the general populace for its business, it too would be subject to the same cultural and socio-institutional influences as its more traditional counterparts. Further, we demonstrate that the decision to internationalize or not should be considered jointly with the decision on capacity allocation to international markets, as analysing these separately may lead to biased results.

The implication of our work for the theory and practice of born-global firms is threefold. First, the next generation of research on 'born-globals' should focus less on merely confirming the existence of such firms and more on the economic and non-economic context in which their early internationalization decisions are made. In addition, scholars should, if possible, include non-born-global firms that had similar characteristics as the born-globals at inception but chose not to internationalize early in their sample, or at least other alternative market expansion plans that were considered by the focal firms. The early internationalization decision is not necessarily the only choice for such firms, contrary to conjectures from the extant literature. Our study suggests that there may exist other potential 'born-globals' that ultimately choose to concentrate on their domestic markets first (and still become successful).

Second, the culture-defying characters of born-globals should be down-played. As demonstrated in this paper (and also in some previous papers), as long as the products (or services) of the born-global firms rely on the general populace for support, cultural distance will still have an appreciable difference in, say, the allocation of production capacities for different markets. In other words, the influence of cultural distance does not just vanish into thin air for born-globals. Instead of merely touting how the staged-internationalization model may be outdated, scholars can focus on how the influences described there can still apply in the world of international new ventures. For products that appeal to customers with specialized knowledge, we emphasize that the 'domain-specific familiarity' is at work simultaneously with, and does not entirely eliminate, the impact of cultural distance.

Third, early internationalization is not an elixir for all firms. We demonstrate how early internationalization could be a logical, profit-maximizing decision for some firms (e.g., the born-globals), and that even for these firms culture has an impact on their production decisions. In other words, the mere existence of born-globals does not mean that they are necessarily more successful than others. It would be equally interesting, if not less insightful, to focus on the extent to which such international new ventures survive or surpass their domestic counterparts over a prolonged period of time. If indeed the economic underpinnings of these international ventures lie in the geographical mispricing of resources, then moderate fluctuations in input prices, currency exchange and interest rates, as well as small shifts in demand, may be sufficient to unravel such opportunities. We surmise that a longer-term perspective as to how international new ventures adjust to environmental disruptions would be tremendously insightful in the next series of papers on born-globals.

So far, we have side-stepped the possibility that the very assemblage of resources for the production of goods or services can take place in more than one country: either the home country for domestically oriented new ventures, or a foreign country in the case of international new ventures. In the words of Oviatt and McDougall (1994), and McDougall et al. (1994) the value chain of activities of international new ventures can span over few or many countries. While we recognize that this perspective is somewhat difficult to generalize, it is reasonable to argue that every production process requires a different set of raw materials and human talent, and the variation in price of inputs from different geographical locations, combined with inexpensive and reliable transport and communication links across great distances, enables transnational value creation at inception to be viable. For instance, the British Broadcasting Corporation (BBC) has documented the viability of transporting semi-manufactured socks from the US to West Africa for processing and then back to the US for sale as finished products (Saky-Addo, 2003). While such opportunities exist, they require a high level of trust among value network partners as well as a high level of inter-organizational coordination that may be beyond the reach of relatively resource-poor new ventures. Effectively, the need for specialized resources that

may be agglomerated at spatially distinct geographic locations may indeed necessitate new ventures initiating such international value networks at birth, but once a production value chain is established (e.g., when a start-up airline is organized and certified for operations) the consideration as to which market to export such services should broadly follow the model outlined in this paper.

Conclusion

In this paper we examine the pattern of inaugural international market entry of new ventures, and show that such firms need not be as distinct as previous research has portrayed them. In particular, the decision for a new venture to internationalize at inception is influenced by the size of its home market and by its production capacity, as well as by the economic forces that influence other more traditional, staged-internationalizing firms. Additionally, we show that the cultural similarity of the home market relative (as implemented through linguistic similarity) to an international market has an impact on the inaugural capacity allocated to those international markets even as the number of competitors increases. Most importantly, we demonstrate that the decision to internationalize or not should be considered jointly with the capacity allocation decision to international markets, as analysing these separately may lead to biased results. Finally, because our analysis is based on a sample of firms that trade in a product sold to the general public, not products that embody specialized knowledge, we believe it represents a more robust test of the international new venture conjecture.

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Notes

1. An implicit assumption we make is that the products of the new venture under investigation exhibit non-increasing marginal cost of production.
2. The increasing prevalence of domain-specific knowledge in the international business arena would therefore make the traditional notion of cultural distance *appear* less relevant (e.g., Bell, 1995).
3. This assumes that large population centres translate into large potential markets.
4. This assumes that the *unit revenue* derived from selling the product elsewhere within the country and/or neighbouring countries is similar, suggesting a fairly homogeneous product.
5. The mimetic effect will be greater for firms that are similar in size. However, for *de novo* new ventures, this size-relatedness is less relevant as their incumbents are often many times larger their size.
6. Haveman (1993) estimated the inverted-U shape relationship based on entry *rates*. Our study deals with the pattern of market *entry*, and is hence subtly different from her hypothesis.
7. Or, at least, similar technologies should be available to all firms – incumbents and new entrants alike.
8. There are international gateway cities such as London and Frankfurt am Main, but passengers flying between, say, Lisbon and Copenhagen can probably enjoy non-stop service instead of having to connect via London or Frankfurt.
9. A class of regional carrier exists in the EU with close operational and often financial ties to traditional flagcarriers (e.g., Crossair Europe/Europe Continental Airways was intended to be an EU arm of Crossair). We exclude these from our definition of independent, new entrants. We include, however, those carriers that operated as entities independent from their parent corporations, such as Go (initiated by British Airways) and Germanwings (by Eurowings-Lufthansa). Taking out the few independent offshoots of established carriers (such as Go and Germanwings) from the sample does not significantly change the result of the analysis.

10. Since all the new carriers in our study face the same operational constraints at busy airports, the presence of this constraint does not place undue pressure for one carrier to internationalize at inception compared with another.
11. Some new entrants positioned themselves to offer better service than the traditional flag-carriers.
12. For instance, full-service carriers Swiss and Austrian Airlines at one point eliminated complimentary meal service in their intra-European operations and offered refreshments for sale in flight, resembling the offering of some of the budget carriers.
13. Some, including Hofstede, Neuijen, Ohayv, and Sanders (1990) and Mezas et al. (2002), suggest that culture at the national and organizational levels are different constructs entirely.

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Part III

Networks and Entrepreneurial Internationalization



6

The Network Dynamics of International New Ventures

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Introduction

In a review of international business research trends, Wright and Ricks (1994) observed that international entrepreneurship was one of three key emerging research areas. Since that time, a particular area of enquiry has focused on the international new venture or INV (Oviatt & McDougall, 1994). In the international business literature, this type of organization has been distinguished from the small firm both conceptually (Knight & Cavusgil, 1996; Madsen & Servais, 1997; Oviatt & McDougall, 1994)

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and empirically (Jones, 1999; Madsen, Rasmussen, & Servais, 2000; McDougall, Oviatt, & Shrader, 2003). As reported in the early literature, one distinguishing feature of INVs is that they are 'different' from conception because from, or near, founding they have a global focus and commit resources to international activities (Knight & Cavusgil, 1996; Oviatt & McDougall, 1994). A second distinguishing feature is the INV's involvement in networks to facilitate rapid internationalization (Coviello & Munro, 1995; Oviatt & McDougall, 1994).

If the early mobilization of INVs is facilitated by network relationships, it is reasonable to assume that such ties emerge pre-internationalization. This follows Wiedersheim-Paul et al.'s (1978, 53) observation that the 'likelihood of acquiring a fortuitous order will in many cases be dependent upon the pre-export activity of the firm.' To date, however, most of our understanding of INV networks relates to initial foreign market entry and activities post-internationalization, even though entrepreneurship research shows that the development of a new organization may be imprinted through ties and knowledge generated pre-founding (Shane, 2000). This suggests a need to understand INV networks at not only internationalization and pre-internationalization, but also pre-founding. Doing so would begin to provide an understanding of the dynamic processes, such as networks, associated with INV formation. Research in this area has been called for by McDougall and Oviatt (2003).

Accordingly, the purpose of this study is to assess the network dynamics of INVs. Our focus is on INV networks rather than the INV *per se*, and the network is positioned as the 'dependent variable'. Following the advice of McDougall and Oviatt (2000) and Jones and Coviello (2005), the theoretical foundation for this study embraces arguments from the entrepreneurship literature. By including theory pertaining specifically to the new venture, we address concerns that the conceptual frameworks underpinning INV research have relied heavily on the small firm literature (Coviello & Jones, 2004) – literature that does not necessarily incorporate new venture issues. Finally, the results of case research conducted on three early-stage INVs are integrated with previous findings from international business and entrepreneurship to develop seven empirically based propositions for future investigation.

This study builds on arguments that network theory and analysis are fundamental to international entrepreneurship research (McDougall & Oviatt, 2003; Oviatt & McDougall, 2005). The paper proceeds by reviewing the INV network literature and incorporating insights from entrepreneurship as they relate to new venture networks. This leads to the research question guiding the study, and a presentation of the method and results. A discussion of the findings and research propositions follows, and the paper concludes with the contributions and limitations of the study, and suggestions for future investigation in the area.

Literature Review

Networks are widely recognized as influential in the internationalization process, yet relatively few studies focus on assessing INV networks *per se*.¹ Of those that can be identified, most track the influence of networks beginning with initial foreign market entry. For example, Coviello and Munro (1995, 1997) highlight both positive and negative network impacts on the pace and patterns of entry mode and market selection for INVs. Holmlund and Kock (1998), Chetty and Blankenburg Holm (2000) and Chetty and Campbell-Hunt (2003) also take this approach, but are focused more on established SMEs rather than the new venture. Common across these studies, however, is the focus on patterns of internationalization rather than either (1) the network itself or (2) the INV within the network. This is in spite of arguments from network scholars that ‘the conduct and performance of firms can be more fully understood by examining the network of relationships in which they are embedded’ (Gulati, Nohria, & Zaheer, 2000, 203).

The need for network research specific to the INV has been recognized by Arenius (2002), Andersson and Wictor (2003), Sharma and Blomstermo (2003) and Autio (2005). These scholars also note that network relationships generate social capital for INVs – a resource that enables entrepreneurial firm mobilization. As discussed by Arenius (2002), the benefits of increased social capital for the new venture can include better access to resources and international opportunities, and a means by which to overcome the liabilities of newness and foreignness.

Evidence of the role of social ties in internationalization has been provided by Ellis (2000), Ellis and Pecotich (2001) and Harris and Wheeler (2005). Social capital is, however, generated by more than social ties, because relationships can also be business-based. For example, Yli-Renko, Autio, and Tontti (2002) show that external social capital (in the form of management contacts, involved customers and involved suppliers) positively impacts upon foreign market knowledge and, in turn, the international growth of new ventures. Chetty and Wilson (2003) found that INVs collaborate to access resources and enhance their reputation, and earlier studies from Coviello and Munro (1995, 1997) identify the influence of both social and business ties on the internationalization of start-up technology ventures. Importantly, the latter study concludes that, with time, the INV's network and resultant growth patterns are characterized by change.

The idea that networks will change suggests that, to understand these phenomena, we must do so in a manner that is sensitive to time. Certainly, the internationalization literature acknowledges the need for such an approach to research (Andersen, 1993; Coviello & Jones, 2004; Hurmerinta-Peltomäki, 2003; Johanson & Vahlne, 1977, 1990; Welch & Welch, 1996), and Zahra (2005) comments on the dearth of empirical studies on INV evolution. Some studies have, however, described network patterns of new ventures relative to time. For example, the previously noted work of Coviello and Munro (1995) uses a mapping approach to describe a network's evolution, and then the same authors (Coviello & Munro, 1997) expand on these findings by using case research on four software firms to integrate the traditional 'stage' models of internationalization with the network perspective. They develop a model of internationalization that integrates:

- (1) time;
- (2) the influence of network relationships on market entry and market development; and
- (3) characteristics of the internationalizing firm.

Sharma and Blomstermo (2003) also trace the early internationalization of two new ventures, identifying the influences of initial network ties on

internationalization, the importance of the INV being central in the network, and the impact of weak and indirect ties on the internationalization process.

Although these studies provide a useful starting point, there appears to be little in the way of theory or empirical data that has emerged focused specifically on the dynamics of INV networks. That is, how do INV networks change over time in terms of their characteristics and compositional ties? This is surprising, because network relationships are process-based (Hite & Hesterly, 2001; Hoang & Antoncic, 2003; Larson & Starr, 1993), and process is, by definition, dynamic rather than static. Although Johanson and Vahlne (2003) refined their classic theory (1977, 1990) to offer a ‘network model of internationalization’, this development still focuses on patterns of international market expansion rather than on the network *per se*, and we continue to lack a rich understanding of how INV networks evolve. If, however, networks are a critical asset in the inception and development of INVs (Andersson & Wictor, 2003; Arenius, 2002), the process of network evolution must be understood from the beginning of the INV’s life cycle rather than from the point at which they enter their first foreign market. This suggests a need not only to accommodate network theory in conceptualizations of internationalization but also to appreciate new venture and early-stage organizational processes. Accordingly, we turn to entrepreneurship research, a logical source of theory given that a core conceptual foundation for the INV rests in this discipline.

Insights from the Entrepreneurship Literature

As this study positions the network as a dependent variable, it is appropriate to draw on entrepreneurship research that takes a similar perspective. Two particular contributions are relevant: (1) the classic model of network development offered by Larson and Starr (1993); and (2) the more recent arguments of Hite and Hesterly (2001). Larson and Starr (1993) argue that, over time, network relationships are transformed from simple, unidimensional dyadic exchanges to a dense set of multidimensional and multilayered organizational relationships. They suggest

that, in the emergent firm, the organization shifts from a reliance on dyadic ties with family and friends or previous contacts to a stage where mutuality of business interests becomes clear, thus causing social and economic relationships to overlap. Then the emergent firm develops added complexity, as reflected in a tighter integration of dyadic relationships and a greater number of economic ties. Larson and Starr (1993) argue that this evolution helps provide stability for the network and positions the firm to leverage network ties and mobilize more resources in the pursuit of growth.

In a more recent conceptualization of network evolution, Hite and Hesterly (2001) argue that, in the emergent stage of the firm, networks will be cohesive and composed primarily of socially embedded ties. Such networks exploit strong and densely connected relationships for growth, and are consequently referred to as 'path dependent'. As the firm moves into the growth stage, the network changes to encompass a balance of embedded and arm's length economic ties that are more intentionally managed to explore growth. Hite and Hesterly (2001) thus propose that the entrepreneurial network will shift from being 'identity based' (path dependent) to more 'calculative' (intentionally managed) over time.

The value of these two theoretical arguments lies in their focus on the network dynamics of early-stage entrepreneurial firms. In terms of their similarities, both Larson and Starr (1993) and Hite and Hesterly (2001) argue that the network will begin with a base of strong socially embedded ties, and will evolve in a linear and predictable manner. At the same time, these two conceptualizations have important points of difference. For example, whereas Hite and Hesterly (2001) suggest that economic ties will become more apparent at later stages, Larson and Starr (1993) see a role for economic ties in early stages, and argue that ties can be both social and economic through network evolution. Hite and Hesterly (2001) expect networks to become less cohesive over time, and they do not believe that the network will be intentionally managed from conception. In contrast, Larson and Starr's (1993) discussion implies that the network development process is intentionally managed. This is seen in their comments that the process involves 'the exploration, screening and selective use of network dyads to match the business definition of the emerging firm' (p 6). Furthermore, Larson and Starr (1993) expect that,

with time, the network will increase rather than decrease in the integration and density of ties.

In spite of certain theoretical points of difference, the above arguments highlight that to understand entrepreneurial networks, an appreciation of the nature of network ties is required, along with the density of the network and the extent to which ties are proactively developed by the new venture. These characteristics reflect those discussed by several scholars (Burt, 1992; Greve, 1995; Hoang & Antoncic, 2003; Johannisson, 1997; Mitchell, 1969), who describe networks as having: (1) structural dimensions and (2) interactional dimensions. As a point of explanation, a firm's network structure can be measured by (e.g.) its size, and the extent to which ties are interconnected, or which actors are positioned centrally *vs* peripherally in the network. Underlying this structure are the interactions that created it: interactions manifest as relationships that can be analysed in terms of whether they are social or economic in nature, how they originated, how long they have existed, etc. Drawing the concepts of structure and interaction together, networks can be characterized by dimensions that portray: (1) what the network looks like (structure); and (2) who is involved, how they are related and so on (interactions). Consequently, a sensible and complete network analysis would incorporate *both* types of network dimension in a time-based manner. This, however, has not yet been addressed in the international business or international entrepreneurship literatures.

Linking the Entrepreneurship and INV Literatures

If the arguments from the entrepreneurship and INV literatures are compared, certain observations are drawn. First, Larson and Starr (1993) argue that networks will increase in density. Hite and Hesterly (2001) and also Greve (1995) take the opposite view. Also, whereas it is expected that a network will grow with time (Larson & Starr, 1993; also Anderson, Håkansson, & Johanson, 1994), Greve and Salaff (2003) found that entrepreneurial networks contract at the firm's establishment stage, that is, after the motivation and planning phases. The entrepreneurship literature therefore offers contrasting views on structural evolution patterns,

and, of particular note, these network characteristics have not been fully addressed in INV literature research.

Second, if one follows the logic of Larson and Starr (1993), the INV will intentionally manage its network from the earliest stage of its life cycle. This pattern of activity would support earlier findings that INVs demonstrate higher levels of strategic aggressiveness than do either 'domestic new ventures' (McDougall, 1989; McDougall et al., 2003) or 'traditional firms' (Bell, McNaughton, Young, & Crick, 2003). Similarly, Chetty and Wilson (2003, 65) argue that INVs are driven by entrepreneurs with 'ambitious growth goals and ... well-organized processes.' This potential for a 'managed process' is also suggested in the general internationalization literature (Welch & Welch, 1996), and is implicit in Knight and Cavusgil's (2004) findings that INVs develop a range of capabilities that they leverage to achieve international goals. At the same time, Coviello and Munro's (1997) study on network influences found evidence of both proactive and reactive internationalization for software start-ups, and Bell (1995) identified a reactive approach to internationalization. Sharma and Blomstermo's (2003, 749) case study also found INV internationalization to be reactive, commenting that 'the history of network ties shapes [the INV's] future.' These findings contradict the notion of a network being intentionally managed, and suggest that INV networks might instead follow Hite and Hesterly (2001), whereby they begin as identity based and path dependent. In contrast, whereas INV networks might become more calculative and intentionally managed, recent findings also suggest that unplanned and serendipitous ties can be influential (Crick & Spence, 2005; Harris & Wheeler, 2005). Consequently, although the INV literature generally takes the position that INVs are proactive and strategically aggressive, other literature suggests they may be reactive, and reliant on previously established ties for growth.

Third, Ellis (2000), Ellis and Pecotich (2001) and Harris and Wheeler (2005) conclude that the internationalizing firm's network relationships are dominated by strong social or personal elements. In entrepreneurship research, however, Larson and Starr (1993) and Hite and Hesterly (2001) suggest that although social ties are important in the early phases of a firm's evolution, they are less influential over time. Similar arguments

have been made in the entrepreneurship literature by Davidsson and Honig (2003), Greve and Salaff (2003) and Schutjens and Stam (2003), with Chetty and Wilson (2003) arguing that, once the INV's start-up process is complete, organizational needs become more complex and necessitate non-social relationships. As a competing argument, Chetty and Wilson (2003) postulate that initial ties might be more business-based if the INV's emphasis is on managing for growth from the outset. It would therefore seem possible that economic rather than social ties will play a primary role through INV network evolution but, again, the literature is mixed on this issue.

The Research Question

The extant literature provides diverse arguments regarding the patterns of network structure and interaction as they might pertain to INVs. The question therefore arises: do INV networks follow a linear path of evolution? That is, do they shift from being dominated by socially embedded ties within smaller networks that are dense and path dependent (at the earliest stage of the life cycle) to a greater majority of economic ties in sparse networks that are larger, more diverse and intentionally managed (at later stages of the life cycle)? Alternatively, do other patterns emerge over time? The uncertainty regarding this evolutionary path suggests that our theoretical and empirical understanding of INV network dynamics is inadequate. This leads to the general question guiding this research: what are the network dynamics of INVs in terms of the structural and interactional patterns at various stages of evolution? Of note, the focus is on the very early stages of the INV's life cycle, that is, conception, commercialization and growth, including internationalization. This study therefore follows Granovetter (1973) by concentrating on the developmental sequence of networks over time. To address the research question, empirical data on the dynamics of network structure and interactions are assessed relative to the extant literature, leading to a set of research propositions specific to INV network evolution. It is anticipated that these propositions should contribute to the progression of INV theory development efforts.

Method

The research question guiding this study is characterized as one of description and interpretation. Consequently, the research method needs to allow for generation of rich data (Wright, Lane, & Beamish, 1988) and an approach that is flexible enough to allow the researcher to ‘learn information that is independent of, or in contrast to, existing theory’ (Sutton, 1997, 99). Accordingly, case research was deemed most appropriate, following the arguments of Glaser and Strauss (1973), Bradshaw and Wallace (1991) and Schöllhammer (1994). As discussed by Rouse and Daellenbach (1999), case methodology is also helpful in generating sensitive, confidential or consequential data (as required in this study). Furthermore, if it is accepted that networks possess both structural and interactional qualities, both quantitative and qualitative data are necessary for a complete network analysis. Again, the case approach was deemed most appropriate, given that qualitative case data can be analysed and interpreted with a bifocal lens, that is, both qualitatively and quantitatively (Coviello, 2005).

Although theory development as such is not the goal of this research, Sutton’s (1997, 627) argument that ‘good theory is fundamentally the result of rigorous methodology and comparative, multi-case logic’ is considered sensible in the current investigation. Data were therefore collected from three organizations, and each case was treated as an independent experiment that confirmed or disconfirmed insights as they emerged (as per Brown & Eisenhardt, 1997). The case sites were chosen from a wider set of eight firms resident in an accelerator facility in New Zealand. As recommended by Eisenhardt (1989), the sites were selected for theoretical reasons. Although they targeted different customers with different products, the selection criteria required that they be start-up software developers serving international markets, and similar in size and age. At the time of data collection they were all very small international new ventures. That is, they had fewer than 10 employees, were less than six years of age, and had entered their first foreign market within 3 years of conception. Consequently, they met the size, age and export criteria used by McDougall et al. (2003). All three cases also needed to meet the more general definition of an INV, where, from inception, the new ven-

ture seeks to derive 'significant competitive advantage from the use of resources and sale of outputs in multiple countries' (Oviatt & McDougall, 1994, 49). This was confirmed by all case informants.² Finally, the software sector was chosen to complement existing studies on entrepreneurial internationalization that examine software developers (e.g., Bell, 1995; Coviello & Munro, 1995, 1997; Reuber & Fischer, 1997). Controlling for industry also minimized the potential for confounding results (Hoang & Antoncic, 2003; Rouse & Daellenbach, 1999).

Data Collection and Preparation

Data collection involved a series of inductive interviews at each site using the procedures outlined by Wright et al. (1988), Eisenhardt (1989) and Yin (1989). The unit of analysis was the network from the perspective of the INV, and consequently the network was defined by the lead entrepreneur in each venture: the owners/founders/managers responsible for general management. These were the primary informants, chosen because of their direct and hands-on experience with the firm's evolution. Such informants are considered appropriate because they typically have knowledge of and involvement in the new venture's various relationships (Barringer, Jones, & Neubaum, 2005; McCartan-Quinn & Carson, 2003). Nevertheless, various other steps were taken to verify the primary informant's reports. In two of the case firms, either a co-founder or a business development manager was interviewed. Secondary data were also examined, including planning documents, websites and promotional material. Importantly, given Johanson and Vahlne's (2003) observations that actors cannot necessarily see their overall network pattern, the suggestions of Anderson et al. (1994) were followed whereby the views of the various informants defined the network 'horizon' over time. The part of the network that the informants considered relevant to the INV's creation, growth, internationalization and planning was defined to be the network 'context'.

Data were collected through a series of iterative, in-depth interviews conducted by teams of three graduate research students. As recommended by Pettigrew, Woodman, and Cameron (2001), the language of 'what,

who, where, why, when and how' was used to guide the research protocol for the interviews, and the starting point for discussion was idea conception for the new venture. All interviews were audio-taped and transcribed verbatim, with each set of interview results providing the basis for the next stage of questioning. The case transcripts were then used to reconstruct the biographic history for each site, leading to a detailed history of the catalytic events and key relationships through each firm's life cycle. Because the process of iterative interviewing involved co-creation of a biographic history, the chronology was prepared by the initial research teams jointly with the case informants. Through various iterations, each chronology was revised until it was considered by the informants to be comprehensive and accurate. This approach involved narrative restructuring (Lee, 1999), and recognizes that biographic histories are a practical way to study the process of entrepreneurial behaviour, because chronological events can be used as stepping stones in the search for patterns over time (Hurmerinta-Peltomäki, 2003; Pettigrew et al., 2001). The use of multiple sources of evidence, the active involvement of participants, and their release of the data for analysis enhanced the credibility and quality of each chronology, as well as construct validity (Yin, 1989).

From this base, a fourth investigator trained in network analysis reviewed all three chronologies against the case transcripts and secondary data. This ensured consistency in the level of detail by case, and identified gaps in the tie data recorded in the chronologies. Where necessary, modifications were made (e.g., information was added or clarified by case informants). A fifth investigator (the author) then reviewed all tapes, transcripts and chronologies, and cross-checked the results of the earlier steps in data preparation. Again, information was obtained where necessary, and final modifications were made to the chronologies.

To facilitate the time-based analysis of network dynamics, two additional steps in data preparation were necessary. First, the two senior researchers independently pattern-matched each INV's evolution to Kazanjian's (1988) life cycle model by following his detailed stage descriptions to identify 'break points' in each chronology. They then compared results and came to an agreed history for each case. Kazanjian's (1988) empirically derived framework comprises four stages:

- Stage I (concept generation, resource acquisition and technological development);
- Stage II (production-related start-up and commercialization);
- Stage III (sales growth and organizational issues); and
- Stage IV (stability and profitability).

The model was developed for technology-based new ventures with internally-generated growth, a focus on initial growth within a single product-technology base and in a market with non-limited demand conditions. As such, it was considered appropriate for this study. Importantly, the model is also recognized as a contextual framework relevant to the analysis of entrepreneurial evolution, and, as noted by Hite and Hesterly (2001), is more useful for identifying the boundaries of entrepreneurial process than are specific time frames. Following Reynolds and Miller (1992), its use also allows for gestation (conception to birth) to be investigated separately from post-birth.³ In this study, each firm's chronology captured Stages I, II and III, including internationalization. Stage IV is excluded, because none of the case sites had yet reached this phase of evolution.

The final step in data preparation involved the senior investigators transforming each firm's chronology into network matrices. This involved iterative cross-checking between researchers to verify consistency in the approach. Each matrix reflected a specific life cycle stage from Kazanjian (1988), and consequently each case had three matrices (Stage I, II and III) where, ultimately, the network in Stage III enveloped that of Stages I and II. If actors left the network in any stage, this was accounted for. To build the network matrices, spreadsheets were created using UCINET 6 software, a social network analysis tool developed by Borgatti, Everett, and Freeman (2002). As recommended by Hanneman (2001), each matrix comprised all actors for the relevant stage, with ties coded as absent (0) or present (1). The resultant matrices were therefore binary. They were undirected in that the data did not reflect who initiated or directed the tie toward whom. The matrices were also simplex in nature, in that they described only one type of tie: a tie relevant to the development of the INV.

Data Analysis

As the focus of this research is on INV network dynamics, the analysis identified changes in the network over time. Following Yin (1989), patterns were identified within each case and then pattern-matched across cases. To understand the nature of the relationships within the network, the chronologies were event- and content-analysed along the *interactional* dimensions of tie content, direction and durability. Tie *content* helps understand diversity in the make-up of network ties. The coding followed the logic of Larson and Starr (1993) and Hoang and Antoncic (2003) by recognizing that a relationship can have both social and economic components. As such, ties were identified and coded as 'social', 'economic' or 'both'. Capturing tie *direction* enables some understanding of the extent to which a network is intentionally managed and the extent to which it has begun to develop a positive network identity. This is because content analysis can highlight whether the INV independently and strategically pursues relationships based on its own reputation, whether the INV responds to an unsolicited approach, or whether referrals come from a pre-existing tie. Each tie was therefore assessed to identify whether it was initiated by the INV (noted as 'outward'), initiated by an external party ('inward'), or initiated by 'third party' introductions. Finally, assessing tie *durability* allows for an understanding of the stability of the network through time, a concept discussed by Gadde and Mattsson (1987) and Larson and Starr (1993). Each tie was assessed for its durability in terms of the length of the relationship, and was coded as short term (one-off), medium term or long term (ongoing).⁴

In parallel with the analysis of network interactions, the matrices for each INV were examined using UCINET 6 software. As changes in network structure are expected to cause changes in the venture's social capital (Borgatti, Jones, & Everett, 1998; Burt, 2000), analysis focused on the key *structural* dimensions of the network and patterns of structural change. The structural analysis was guided by Borgatti et al. (1998) and involved assessing:

- (1) general network measures;
- (2) structure hole measures; and
- (3) measures of the INV's position in the network relative to other actors.⁵

At the general level, UCINET 6 was used to compute network *range* (the size of the INV network determined by a count of the number of ties to other actors) and network *density* (the proportion of ties that are connected given the number of pairs of potential ties). The greater the range or size of the INV network, the greater the potential access to information and other resources, and thus increased social capital (Borgatti et al., 1998; Greve & Salaff, 2003). With regard to network density, one school of thought (e.g., Coleman, 1988) argues that networks with closure (i.e., dense networks) provide ready access to better-quality information. They are also believed to facilitate trust and mutuality of interests. As a result, higher network density might be expected to increase social capital for the new venture. A second school of thought stems from Burt (1992), and argues that the higher the network density, the lower the social capital, because more concentrated ties are associated with a higher degree of information redundancy: that is, the denser the network, the more insular the network.

Although the above views on network density are considered complementary (Burt, 2000; Hite & Hesterly, 2001), Burt's (1992) notion of structure holes describes social capital as a function of entrepreneurial opportunities. Further, minimizing redundancy is a key to successful entrepreneurship (Greve, 1995). The analysis therefore included structural hole measures to assess the effective size and constraints of each network. *Effective size* is the number of actors that the INV is directly connected to minus a redundancy factor that represents the overlap between the direct ties the INV holds. It therefore differs from network 'range' by accounting for redundant ties. *Constraint* measures the extent to which all of the INV's ties directly or indirectly involve only a single actor (Borgatti et al., 2002). As explained by Burt (1992) and Borgatti et al. (1998), the larger the effective size of the network, the greater its growth of nonredundant ties and, simultaneously, the greater the actor's potential for information and control benefits. The lower the actor's constraint, the greater the opportunities for action.

Finally, the analysis considered each INV's position within their network. First, UCINET 6 was used to compute *closeness centrality*. This measure accounts for both direct and indirect ties to the INV in order to indicate how 'close' it is to all other actors in the network. As explained by Borgatti et al. (2002), the normalized measure of closeness centrality provides an index of the expected time until arrival for (e.g.) information flowing through the network to the INV, via optimal paths.⁶ Second, the INV's *betweenness centrality* was calculated to identify the number of times it linked other actors in the network. A higher level of betweenness centrality would indicate more opportunities for information dissemination and control (Borgatti et al., 1998; Hanneman, 2001), increased information diversity (Greve, 1995), and more opportunities for the INV to influence internationalization (Sharma & Blomstermo, 2003).

Results

The case sites are referred to as Charlie, Sierra and Tango.⁷ All three INVs are based in New Zealand. Each case is introduced, along with a summary of its internationalization activity in the context of its network relationships. This is followed by the results of the network analysis.

Case Profiles

The initial concept for all three INVs resulted from a founder believing they could improve a business practice they were personally involved with. None of the INVs was a family business or spin-off. Two firms were founded by a pair of complementary entrepreneurs, one with more technical expertise, the other with more business expertise. The third INV was co-founded by one entrepreneur with 'the idea' and another with the resources to develop the concept. In all three cases, one actor conceived the idea but quickly turned to the second actor for support. All these ties were based on previous economic (business) rather than social ties.

The idea for *Charlie* was conceived in early 2000, and the firm was incorporated later that year. Charlie entered Australia in 2002 during Stage III of Kazanjian's (1988) life cycle: growth. By 2003 Charlie had four employees and two contractors, and served New Zealand and Australia. Opportunities were being explored in Europe, North America and Asia. Charlie's initial foreign market entry to Australia involved piggybacking on an existing relationship with a large NZ multinational (a tie formed during conception in Stage I). This organization was catalytic to Charlie in all three stages. It provided financial support to help develop Charlie in Stage I. In Stage II (commercialization), two of its business units became Charlie's first and third clients, and it also opened the door for Charlie's entry to the accelerator facility.

Sierra was conceived in 2000, founded in 2001, and went offshore in 2002 during Stage II: commercialization. By 2003 Sierra had four employees serving the US and Europe through several value-added resellers. Opportunities were being explored in the UK, and Sierra was seeking venture capital funding from Malaysia, Korea, Australia and the US. Sierra's initial foreign market entry was to the US and was influenced by a variety of ties. First, the accelerator facility encouraged US entry during conception (Stage I) and, second, another start-up in the accelerator introduced Sierra to a US-based marketing and communications firm. Third, the US communications firm recommended that Sierra attend a US trade show. This happened in Stage II and led to a range of US distribution contacts. The communications firm also provided ties to service and technology providers and a US patent lawyer. One of Sierra's co-founders moved to the US in Stage III as part of the growth phase to further establish an offshore presence, but within months he returned to New Zealand to consolidate operations when the firm began to experience growth challenges.

Tango was conceived in 1999 and became a legal entity in mid-2000. The organization went offshore in its commercialization stage (2002). By 2003 Tango had five employees, and clients in New Zealand, Australia and the UK. Early forays had been made to Europe and the US. Tango's first foreign market entry was in Stage II through an economic tie when a previous work colleague of one of the co-founders introduced Tango to a business contact in Australia.

Network Structure

Beginning with the size or range of each network, Table 6.1 shows clear patterns of growth. The smallest Stage I network belonged to Charlie, but by Stage III it was nearly eight times its original size. In contrast, both Sierra and Tango started with larger networks, and although these too had expanded by Stage III, growth had not been as rapid.

As each INV network grew, it also decreased in density. When density was at its peak in Stage I, the three networks showed a high variation in ties, with 12–52% of all possible ties present and relatively high standard deviations. Using Charlie as a base example, this network shows a moderate density score in Stage 1 (52%), suggesting a somewhat nonredundant or sparse network. This is assumed to be beneficial to the INV if it is accepted that a firm with a sparse network has greater potential for success, particularly if it intends to pursue international market development. On the other hand, the results in Table 6.1 show that, by the time Charlie went offshore in Stage III, the network was very sparse (density=8%), perhaps to the point of being disconnected. This is consistent with its rapid increase in network range.

The same general patterns regarding density were observed for Sierra and Tango, although the Stage I network density for both these INVs was lower than that of Charlie. Although the networks had a range of densities at start-up (with Charlie's being the most connected and Sierra's being the least connected), they all became larger and less dense over time, allowing for diverse groups to form within them. By Stage III, when all three firms were in foreign markets, their networks exhibited similar structures. These results support the view that a network will shift from being dense to sparse as part of a natural evolution, but there is also some risk that, as the INV internationalizes, the network may become disconnected and difficult to manage within. This may explain why Sierra struggled in Stage III. That is, it had the largest yet least dense (least connected) network through all three stages of evolution.

Turning to the structural hole measures, Table 6.1 shows that the effective size of each INV's network expanded over time. Consequently, the number of actors that each venture was directly connected to increased. This should create opportunities for control and information/resource

Table 6.1 Comparing network structure measures by stage

Structural characteristic	Charlie's network			Sierra's network			Tango's network		
	In Stage I	By Stage II	By Stage III	In Stage I	By Stage II	By Stage III	In Stage I	By Stage II	By Stage III
Range (no. of ties)	5	13	38	22	33	60	12	19	29
Density (s.d.)	0.52 (0.50)	0.23 (0.42)	0.08 (0.28)	0.12 (0.33)	0.08 (0.27)	0.04 (0.21)	0.32 (0.46)	0.18 (0.38)	0.13 (0.34)
Effective size of network (ties)	2.8	10.31	35.79	20.6	31.75	58.78	9.50	16.57	26.59
Constraint level	0.50	0.21	0.07	0.12	0.07	0.04	0.26	0.15	0.10
Freeman's closeness centrality (normalized)	77.78	78.26	83.93	86.67	85.11	86.59	100.00	88.00	91.43
Freeman's betweenness centrality (normalized)	19.84	52.83	85.41	82.46	86.59	91.80	59.09	68.54	79.55

access that, arguably, could be useful in internationalization. The constraint measures decreased over time, indicating greater opportunities for action (including foreign market entry), because fewer relationships were redundant.

Finally, each INV showed high levels of closeness centrality through all three stages, and each firm increased its closeness centrality from Stage II (commercialization) to Stage III (growth). The betweenness centrality of each INV consistently increased with time, and by Stage III the normalized betweenness measures ranged from 79.55% (Tango) to 91.80% (Sierra). Relating this back to density, each firm seemed to have developed a relatively central position in a sparse network by the time it was offshore. Theoretically, this should create an asset for growth and internationalization, because each INV could reach a high proportion of other network actors, thus increasing the potential for exploiting the benefits of these ties. This is, of course, provided the network does not become unmanageable because of rapid growth or a lack of integration.

On the whole, the network structure of these INVs showed a linear pattern of evolution whereby over time:

- (1) the INV network increased in range and decreased in density;
- (2) non-redundant aspects of the network grew larger while constraints on the venture decreased; and
- (3) although each INV's closeness to other network actors was consistently high through the evolution process, its centrality increased in terms of the extent to which it was positioned between other actors.

Based on the arguments of Borgatti et al. (1998), such patterns suggest that each INV's social capital grew in a linear fashion as the firm evolved from conception to growth.

Network Interactions

The structural analysis suggests a linear path of change within each network, but further understanding of network dynamics comes with the analysis of tie content, direction and durability. Table 6.2 shows that all

Table 6.2 Comparing network interaction characteristics by stage

Interaction characteristics	Charlie			Sierra			Tango		
	In Stage I (%)	By Stage II (%)	By Stage III (%)	In Stage I (%)	By Stage II (%)	By Stage III (%)	In Stage I (%)	By Stage II (%)	By Stage III (%)
Content									
Family/friend	17	6	2	13	8	5	0	5	3
Business	83	94	98	83	86	87	91	75	81
Both	0	0	0	4	6	8	9	20	16
Direction									
Inward	33	22	9	0	3	10	0	15	19
Outward	33	44	30	57	46	49	82	65	50
Third party	33	33	61	43	51	41	8	20	31
Duration									
Short term (one-off)	66	44	45	52	49	49	18	15	19
Medium term	17	6	7	13	14	11	9	10	9
Longer term (ongoing)	17	50	48	35	37	39	73	75	72

three networks were dominated by economic ties through Stages I, II and III. This may reflect the nature of an INV if, from conception, the start-up needed to develop business ties to build the organization quickly for international market entry. Importantly, however, the interactional analysis also identifies more subtle patterns on a case-by-case basis. For example, a small number of social ties were evident in the earliest stage of Charlie's development, and these decreased over time while the proportion of economic ties increased. A somewhat similar pattern emerged for Sierra, although it also exhibited a small number of multiplex (combined social and economic) ties. Tango, on the other hand, had a very high proportion of economic ties in Stage I. Although these ties continued to dominate Tango's network, there was also a relatively high proportion of multiplex ties, in comparison to the other INVs. The cross-case results therefore suggest that, although economic ties were prevalent through each firm's life cycle, the relative emphasis of tie content is unique to each INV.

With regards to tie direction, Table 6.2 shows that, again, each network had idiosyncratic patterns of interaction. For example, Charlie's Stage I ties were equally distributed between those that were inward-directed, outward-directed or third-party (33% each). By the time Charlie internationalized in Stage III, its network was dominated by third-party referrals (61%) and outward-directed ties (30%). Relatively few ties were inward-directed. At the other extreme, Tango was dominated by outward ties in Stage I (82%), but this emphasis decreased over time to Stage III, when the network showed a mix of both outward ties (50%), third-party referrals (31%) and inward ties (19%). Sierra showed a more consistent pattern in that its network was relatively balanced between outward and third-party ties through its entire evolution. By Stage III, all three networks showed a mix of ties in terms of direction, although one particular pattern can be noted. That is, the networks were characterized by outward-directed and third-party ties by the time the firms were internationalized and, notably, relatively few inward-directed ties. Although this suggests that the INVs were more intentionally managed, they were also path dependent. Furthermore, the lack of inward-directed ties by Stage III may suggest that the ventures had not yet attracted network contacts based on their own reputation and identity, in spite of the fact that they had begun to internationalize.

In terms of tie durability, Table 6.2 shows that, by Stage III, Charlie and Sierra had a relatively equal balance of short- and long-term ties, and Tango had more long-term ties. Again, however, the evolutionary patterns differed for each venture. For Charlie, a moderate number of short-term ties were established (and ended) at Stage I. A smaller number of short-term ties were used in commercialization and growth, with additional analysis indicating that these were generally introductions to potential clients. Importantly, the longer-term ties that balanced Charlie's network at Stages II and III comprised business relationships considered essential to Charlie's operations. These included large domestic clients with market influence in NZ and abroad, and international consulting firms that were relied upon for referrals to new clients. In contrast, whereas Sierra's patterns showed little change in tie duration over time, that network was characterized by a greater proportion of short-term ties that were task oriented in nature. This suggests that Sierra's network was in constant flux and, indeed, this INV had both the largest and the least integrated network. Finally, Tango's network by Stage III was not only the smallest and most connected but also the most stable in terms of its steady emphasis on long-term ties.

In terms of internationalization itself, the initial foreign market entry for each INV resulted from ties generated in Stage I or, as with Tango, even before Stage I. All three INVs internationalized through economic rather than social ties. That is, the instrumental tie for Tango was a third-party referral generated by a business tie of the co-founder established in a previous work environment. Charlie went offshore by piggybacking on the Australian subsidiary of a NZ multinational that joined the network in Stage I. Sierra entered the US through a series of short-term business contacts that referred the INV onward. Consequently, although internationalization did not occur until each INV was well into its life cycle, it resulted from business ties established before or during conception, and all ties involved third-parties as catalysts.

Discussion

The results of this study are discussed in two phases. We begin with a set of findings on the role of networks in the INV. Beginning at this level allows the results to be pattern-matched to the wider literature. The dis-

cussion then turns to the focus of the research: INV network dynamics. It is these findings that are used to develop propositions for further investigation.

At the general level, the results of this study support Oviatt and McDougall's (1994) arguments that networks will open doors for INVs by providing market access, financing, distribution channels, referrals and a pool of contacts for both internal and external development. Thus network relationships are intangible resources salient to organizational growth. This is consistent with the arguments of Gulati et al. (2000) and the findings of Bergmann Lichtenstein and Brush (2001) and Andersson and Wictor (2003). As identified in this study, however, such resources are also essential *pre-internationalization*, *pre-growth* and even *pre-commercialization*, that is, from the very earliest stage of firm development: conception. This confirms the importance of early relationships for new ventures (Coviello & Munro, 1995, 1997; Sharma & Blomstermo, 2003) and supports Wiedersheim-Paul et al.'s (1978) observations regarding the impact of pre-export activity on international opportunities. That is, although internationalization did not occur until Stage II or III for the INVs in this study, it was in all cases the result of a tie established much earlier in the life cycle. Importantly, the ties instrumental in initial foreign market entry were economic rather than social. This contradicts the findings of Ellis (2000), Ellis and Pecotich (2001) and Harris and Wheeler (2005).

At the same time, the evidence presented here suggests that no one pattern explains the nature of ties in INV networks. Ties can be either social or economic, and either strong or weak. As an example, although initial internationalization may have been the result of economic ties, some social ties were also evident through network evolution. Examples of strong ties include Charlie's long-term multiple ties with an influential multinational, and weak ties are evidenced in the pool of indirect short-term relationships that influenced Sierra. As seen with Tango, the catalytic tie for internationalization involved an introduction from a previous business colleague of one of the cofounders. The results suggest therefore that, although network ties are consistently found to facilitate INV evolution and also internationalization, they are not able to be easily categorized. Even with only three INVs, this finding is consistent with other case

research on internationalization (Coviello & Munro, 1997; Sharma & Blomstermo, 2003) and large-scale survey findings (Jones, 1999).

The analysis also supports the arguments of Larson and Starr (1993), because the INV's network expanded through the evolution process. Accordingly, so too did INV network boundaries and horizons (consistent with Anderson et al., 1994). The networks also became more complex, in line with Larson and Starr (1993) and Hite and Hesterly (2001). Furthermore, the attractiveness of certain ties (e.g., Charlie's multinational partner) appears to have enhanced the legitimacy of the INV and stimulated third-party referrals for growth and internationalization. This supports Burt (1992), Gulati et al. (2000) and Hoang and Antoncic (2003), and provides evidence that INV capabilities are not only internally generated. Rather, INVs benefit from competitive capability and informational advantages generated by their network. This is consistent with the conclusions of Coviello and Munro (1995, 1997) and Yli-Renko et al. (2002) that the new venture can leverage network relationships for international market advantage.

Beyond the general findings, the results of this study provide an effective base from which to develop propositions specific to the network dynamics of early-stage or young INVs. First, the range of these INV networks increased over time. Although consistent with most theoretical arguments, these results contradict Greve and Salaff's (2003) findings that networks are apt to contract at the establishment stage (equivalent to Stage II in this study). Second, density decreased over time and, as a result, the INV networks are not characterized by increased closure. This outcome contradicts both Larson and Starr's (1993) contention that networks will become more consolidated and Greve's (1995) findings that density is consistent across stages. Results for both network range and density are perhaps explained by the nature of the INVs in question: technology-based niche marketers seeking to internationalize. As a result, they either 'act' or 'respond' rapidly when building contacts beyond their initial network, and this tends to increase network size and decrease the density of ties. Of further note, the results also suggest that the relatively small and dense Stage I networks of (e.g.) Charlie and Tango may have provided a base that, according to Coleman (1988), Greve (1995) and Hite and Hesterly (2001), could have helped position each venture for

growth and internationalization. That is, at the earliest stage of evolution, a higher level of closure was perhaps useful in providing access to resources through a network characterized by trust and mutuality. In contrast, Sierra's sparse initial (and subsequent) network may have contributed to its later challenges with growth.

With regards to the structural hole argument, the effective size of each network grew and the levels of constraint decreased with time, thus enhancing opportunities for INV action. This, however, also suggests a decrease in network integration, and consequently contrasts with Sharma and Blomstermo's (2003) conclusions that ties shift over time to become more direct and stronger. One possible explanation comes from Greve (1995), who suggests that, in a loosely constrained network, the entrepreneur may be able to discuss ideas and problems without a high risk of idea appropriation by discussion partners, that is, the loose network protects the basic business idea. Indeed, in reviewing the interview data, this strategy was noted by informants in all three case firms, particularly Sierra.

Turning to network position, Greve's (1995) and Sharma and Blomstermo's (2003) suggestions regarding centrality are supported, because the betweenness of each INV continuously strengthened within its network. This suggests greater potential for the INV to control information and broker exchange processes. Interestingly, although small shifts in closeness centrality were noted, including an increase from Stage II to Stage III, the general pattern for this measure was consistently high. This may characterize entrepreneurial ventures in general whereby the firm is positioned within a relatively centralized network that emanates from the start-up itself.

Overall, the results suggest that, although a small dense network is perhaps beneficial at the conception stage in order to generate initial resources from trusted sources, the overall changes in network structure lead to an increase in social capital for the INV that reflects the arguments of Burt (1992) and Borgatti et al. (1998). That is, the structural hole argument prevails through INV network evolution. Further, the results of the structural analysis suggest a linear path of evolution for the networks of young INVs.⁸ The findings discussed to this point lead to three propositions regarding network structure:

- P1:** As the young INV evolves from conception through to internationalization and growth, there will be an increase in network range and a decrease in network density, thus increasing the INV's social capital.
- P2:** As the young INV evolves from conception through to internationalization and growth, the effective size of the network will increase and constraints will decrease, thus increasing the INV's social capital.
- P3:** As the young INV evolves from conception through to internationalization and growth, it will maintain a high level of closeness to other actors, but will become increasingly central in terms of the extent to which it acts as a bridge between actors, thus increasing the INV's social capital.

Second, the analysis of interactional characteristics indicates that tie content, direction and duration are more idiosyncratic than are the structural patterns. This supports McEvily and Zaheer's (1999) arguments that resource development pathways are unique for every venture. Nevertheless, certain patterns do emerge. For example, although the INVs showed evidence of intentionally managing their network, they were also identity based in terms of relying on or responding to 'who they knew' through existing ties. That is, although outward-directed ties were common (suggesting intentionally managed networks), so too were referrals through third parties. This is consistent with the observations of Johanson and Vahlne (1992) that relationships lead to other relationships, as well as of Ellis and Pecotich (2001, 462), who conclude that 'decision-makers follow the line of least resistance abroad by capitalizing on their existing connections with others.' Further, although the balance between being path dependent and intentionally managed was not necessarily consistent across each INV, the general patterns contrast with both Larson and Starr's (1993) and Hite and Hesterly's (2001) views that the new venture will shift from an identity based to a calculative network. Instead, the results support Johannisson's (1988) conclusion that an entrepreneurial firm can operate reactively and proactively at the same time. Thus, in spite of the arguments that an INV is more aggressive and proactive, or relies on 'well-conceived manipulation of strategic variables'

(Knight & Cavusgil, 2004, 136), the start-up firms studied here suggest an approach that is a balance of both unintended occurrences and intended design. This supports Welch and Welch (1996), Coviello and Munro (1997), Coviello and Martin (1999) and Sharma and Blomstermo (2003), leading to a fourth proposition:

P4: The young INV's network will be *both* path-dependent and intentionally managed at all three stages of early evolution: concept generation, commercialization and growth, including internationalization.

Third-party referrals were common, and this suggests that, to some extent, each INV had begun to develop its own reputation in the network. At the same time, the lack of inward ties for all three cases indicates that a strong network identity in terms of perceived attractiveness as a potential partner was yet to be developed, even by the time the new venture had internationalized. Thus, although reputational effects are generally expected to increase as the network evolves and the venture gains an identity (Anderson et al., 1994), this was not clear in the cases here. Although not identified in the analysis, this is perhaps due to the fact that, at the time of data collection, the INVs had not reached Kazanjian's (1988) stability stage, and thus may have experienced the liability of newness. A fifth proposition is therefore:

P5: The young INV will experience low reputational effects at all three stages of early evolution: concept generation, commercialization and growth, including internationalization.

It is also notable that, although unique interactional patterns emerged for each case, economic ties dominated the INV networks regardless of stage. This contradicts Larson and Starr's (1993) notion of combined socio-economic ties through all stages and Hite and Hesterly's (2001) argument of a shift to balanced ties at later stages. The results are also a notable departure from the body of literature postulating the critical influence of social ties at start-up. This finding therefore supports Chetty and Wilson's (2003) suggestion that the initial network of an INV might be

more business based than social. It could also reflect the nature of the INVs in this study because these new ventures were not family businesses but, rather, were conceived by business associates based on their business experiences. Thus, the results are similar to McDougall et al.'s (2003) finding that the INV entrepreneur is able to draw on his or her knowledge at start-up, especially as it relates to business contacts. This is not to say that bonding capital in the form of social ties is not present, but it is less instrumental for these INVs. Based on these findings, a sixth proposition is offered:

P6: The young INV's network interactions will be dominated by economic ties rather than social ties at all three stages of early evolution: concept generation, commercialization and growth, including internationalization.

Finally, although Larson and Starr (1993) expect a new venture's network to crystallize or stabilize over time, the INV networks studied here are somewhat volatile, with only one firm exhibiting a relatively high proportion of long-term relationships. Indeed, rather than developing and maintaining a network of ties over time, the results of this study show that relationships often end in the short and/or medium term. This is consistent with the argument that networks are dynamic (Gulati et al., 2000; Hite & Hesterly, 2001), and is explained by the INV's entering into ties as the need or opportunity arises. Some ties are short-term in nature (e.g., initial referrals, product trials, legal consulting), whereas others are longer-term (e.g., technology supply, financial support). This supports Blankenburg Holm, Ericksson, and Johanson's (1996) arguments that interactions are not just a matter of 'buying and selling', and it also shows that not all relationships are coordinated over an extended period to result in longer-term ties. Some ties may be opportunistic and others more deterministic. This leads to the final proposition:

P7: The young INV's network is both unstable and idiosyncratic through all three stages of early evolution, with tie duration being a function of the intent and/or contribution of each tie.

Conclusions

This research develops seven propositions regarding INV network dynamics as a foundation for future research in this area. In doing so, it imports entrepreneurship theory to the INV literature, and integrates this theory with empirical case data from young INVs. This supports Buckley's (2002) call for interdisciplinary research in international business. From a methodological perspective, this study is a response to Coviello and Jones' (2004) recommendations that international entrepreneurship research should combine positivist and interpretivist methods within a time-sensitive design. The systematic combination of UCINET 6 with more classic qualitative analysis allows for time-based examination of both (1) network structure and (2) the interactions constituting the network.

The results of this exploratory study highlight certain subtleties regarding network evolution, and offer insight into the structures and interactions of INV networks. As called for by McDougall and Oviatt (2003), this informs our understanding of one of the dynamic processes by which INVs are founded. Importantly, although common patterns of structural evolution were identified across the case firms, the interactional dimensions were found to be more variable. Thus, the structural characteristics of INV networks may be similar but the process-based relationships underlying them are not. This mirrors arguments in both the entrepreneurship (Gartner, 1985) and internationalization literatures (Jones, 1999; Sharma & Blomstermo, 2003), and suggests that INVs are not likely to behave in a fully predictable manner.

The research also shows that INV network analysis benefits from including the very early stages of the life cycle, because relationships useful for internationalization may develop at concept generation. This supports Welch and Welch's (1996) and Johanson and Vahlne's (2003) observations that the way in which network relationships provide the basis for future growth is more important than the actual path of internationalization. On a related issue, the results also suggest that it is appropriate to distinguish between the activities of young INVs and those of firms that are more established. For example, Knight and Cavusgil's (2004) study examined firms defined to be 'born global' by virtue of the

fact that they had internationalized within 2 years of start-up. These organizations were, however, potentially up to 20+ years old at the time of data collection, with an average size of 190 employees serving approximately 20 countries. As such, they could no longer be considered start-up ventures. It is possible, therefore, that Knight and Cavusgil's conclusions reflect the practices of relatively long-established organizations, rather than the newer firms examined in the current study.

As with any research, certain limitations must be noted. First, the external validity of this study may be limited to the type of firm under investigation: INVs characterized as knowledge-based technology developers. This single context is, however, considered appropriate to control for industry effects. Furthermore, this type of firm is among the most commonly studied in the international entrepreneurship literature (Coviello & Jones, 2004).

Second, the methodology relied on the accuracy of reports from informants within three INVs as regards their firm's network. This means that information from actors external to the INV was not captured. Depending on the research objective, future studies might include the perspective of such actors in order to capture alternative views of the network. This would be particularly appropriate if the focus of analysis was selected dyads representing different types of network relationship (e.g., a comparison of long-term economic *vs* social ties).

Third, the data captured in this study did not include perceptions of tie strength or importance, the level of trust associated with different ties, or the frequency and intensity of contact. Such data could be beneficial in investigations of the interdependence of ties between actors in terms of (e.g.) prioritizing ties by their influence on network evolution, internationalization decisions, resource acquisition, or new product development.

Fourth, the framework used to guide this analysis is essentially a linear description of a biologic organization. The Kazanjian (1988) model was considered most appropriate, because it was derived from analogous firms and allowed for the assessment of firm gestation from conception, but an alternative approach might focus on examining network dynamics relative to marker events such as the first sale.

Fifth, this study did not specifically link network characteristics to INV performance, on the assumption that, in the early part of the new venture's life, performance is best represented by the fact that the INV has not disbanded (Delmar & Shane, 2004). As this study examined only surviving firms, and given the risk associated with new ventures survival, it would be appropriate to compare the networks of surviving firms with those of INVs either no longer in operation or experiencing challenges in transitioning beyond initial internationalization (providing data were available).

Although the current research begins to address Zahra's (2005) call for research on the evolution of INVs, future research might examine INVs that have evolved through to Stage IV of Kazanjian's (1988) model: stability and profitability. The propositions offered here may also be investigated in terms of how they relate to the INV's speed of internationalization as discussed by Oviatt and McDougall (2005), or other aspects of organizational performance such as international sales growth.

Given that this study focused on INVs from a single sector, future research should involve multiple case studies in different contexts, including those with different patterns of product development/obsolescence or different levels of knowledge and technological intensity. To move beyond early-stage INV analysis, it would be appropriate to compare the networks of different types of international firms by applying (e.g.) Johanson and Mattsson's (1988) categorization of 'early starters, lonely internationals, late starters and internationals among others'. Another approach, as suggested by Zahra (2005), could compare different types of INV using Oviatt and McDougall's (1994) typology: import/export start-ups, multinational traders, geographically focused start-ups and global start-ups (the latter being represented by the cases in this study). Other relevant firms for comparison include domestic new ventures. This would complement McDougall et al. (2003) and Chetty and Wilson (2003) in providing further insight into the differences/similarities between INVs and their domestic counterparts. All such comparisons would help progress theory relevant to INV network dynamics by testing and refining the propositions developed in this study, in different contexts. As noted previously, INV theory development will also benefit from assessing the impact of network dynamics on various aspects of organizational performance.

A broader range of cases would also enable further investigation of the idiosyncratic nature of network interactions and the seemingly more predictable patterns for network structure. In addition, as the primary unit of analysis in this study was the INV network, UCINET analysis could be used to trace the evolution of the networks of founders or other actors at the individual rather than firm level. This would complement Arenius' (2002) initial research linking founder and firm-level social capital. It would also provide insight into the changing positions and power structure within the network over time. A related area of research could focus on the differences between individual entrepreneurs and how their network dynamics are influenced by their previous knowledge, work experience, propensity to network, or motivations and learning. This would complement the research of Madsen and Servais (1997), Reuber and Fischer (1997), Shane (2000) and Zahra, Korri, and Yu (2005).

Finally, it is important to acknowledge that networks can have a dark side, whereby ties may constrain a venture (Anderson et al., 1994; Coviello & Munro, 1997; Gulati et al., 2000). This is evident in the cases studied here. For example, the structural analysis raised the question: when does a network become too sparse? Referring to Sierra, this INV's network was already very sparse in Stage I. By Stage III only 4% of ties were connected, suggesting the network was more fragmented than integrated. Combined with a relatively high proportion of economic ties and a dominance of short-term ties in Stage III, it is possible that Sierra was operating within a network that lacked stability. This perhaps explains why, of the three case firms studied, it was Sierra that felt the need to retrench during Stage III.

A second example of risk associated with networks is found with Charlie. Although this INV occupied a central position within its broader network, the network was characterized as reasonably fragmented by Stage III, and dominated by relationships based primarily on third-party ties. Furthermore, few if any ties were socially embedded. Although this highlights the existence of weak ties, as discussed by Sharma and Blomstermo (2003), there is also risk associated with such ties. For example, although one of the primary informants describes Charlie's approach to networks as 'viral marketing', it might be worth asking: when does viral marketing become 'virus marketing'? That is,

will the abundance of arm's length ties and rapid growth (as experienced by Charlie in Stage III) cause control problems and an inability to prioritize and leverage key relationships? These examples highlight the existence of what Welch and Welch (1996) refer to as 'strategic blindspots', and suggest that research needs to more fully address the deleterious effects of network structure and interactions on INV evolution and internationalization.

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Notes

1. Many INV studies incorporate networks (e.g., Andersson & Wictor, 2003; Coviello & Martin, 1999; Hadley & Wilson, 2003); however, this is not their primary focus. For recent reviews of the broader international entrepreneurship and INV literature, see Zahra and George (2002), Coviello and Jones (2004) and Rialp, Rialp, and Knight (2005).
2. Oviatt and McDougall (1994) identify four different types of INV. The cases in this study fit the definition of the 'global start-up'.
3. Although the literature includes various stage models of internationalization (e.g., Cavusgil, 1984; Johanson & Vahlne, 1977; Reid, 1981), they were considered less relevant for this study, given that the focus is on INV network evolution rather than international market development activities. Also, the INV literature has found that the traditional stage models do not fully reflect INV internationalization (Bell, 1995; Coviello & Munro, 1997; Jones, 1999).
4. Longer-term ties include those that were ongoing at time of data collection, even if recently established, unless they were established for a one-off (short-term) task or specific medium-term activity.

5. The term ‘actor’ in this analysis refers to either an organization or an individual, because the distinction between entrepreneurship at the firm level and at the individual level is often blurred (Hoang & Antoncic, 2003; Larson & Starr, 1993).
6. Closeness centrality is the normalized reciprocal of ‘farness’ divided by the minimum possible farness, where farness is the total graph-theoretic distance from the INV to all other actors in the network (Borgatti et al., 2002).
7. Each case firm is disguised, as are the actors in their network.
8. The notion of linearity refers to network evolution and not the pattern of internationalization, which, as discussed by Welch and Welch (1996), Jones (1999) and Bell et al. (2003), may well be non-linear.

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7

Explaining the Internationalization of iBusiness Firms

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Introduction

A growing number of studies investigate how the Internet and other computer-based information system (CBIS) technologies influence international strategies of firms (e.g., Ekeledo & Sivakumar, 2004; Petersen, Lawrence, & Liesch, 2002) suggesting that it facilitates internationalization, for instance through better and easy acquisition of information about foreign markets (Mathews & Healy, 2007) or through decreasing

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costs associated with spatial distance, for example, remote customer service or less travel costs (Arenius, Sasi, & Gabrielsson, 2006). This research tends to either focus on the speed of internationalization (Luo, Zhao, & Du, 2005), the test of existing internationalization theories (Forsgren & Hagstrom, 2007), or examine which factors influence the propensity for foreign expansion (Kotha, Rindova, & Rothaermel, 2001). Other empirical studies are simply descriptive in nature and depict various dimensions of internationalization, such as motivations, foreign market selection, and entry modes (Loane & Bell, 2002; Loane, McNaughton, & Bell, 2004).

These studies tend to use different terms, but view electronic business companies (denoted as E-business companies) as any firm operating online that provides its products/services to customers using the Internet and other CBIS technologies. In the literature, such businesses are called “pure Internet firms” (Kotha et al., 2001), “digital information good providers” (Mahnke & Venzin, 2003), or “E-commerce corporations” (Singh & Kundu, 2002). Although these terms aim at describing a homogenous subset of companies (those using the Internet and CBIS), the samples used in these studies are quite broad and contain companies with different business models. For example, Kotha et al. (2001) include firms like eBay, Barnes & Noble (a traditional book retailer with an Internet sales channel), eToys (a classic online retailer), or Internet enablers, such as PSINet in their sample of E-businesses. Mahnke and Venzin (2003) focus on the characterization of goods provided by E-business companies and include Yahoo!, AOL, and eBay as examples of firms providing digital information goods. However, their definition also includes software companies, which produce digital information goods but are not using CBIS or the Internet as the main tool to interact with customers (examples are SAP or Oracle). Singh and Kundu (2002: 680) define “E-commerce corporations” as “organizations that from inception are engaged in electronic commerce, and derive a significant competitive advantage from the use of network resources resident in virtual networks of commercial collaborative alliances.” Besides companies like Yahoo! and eBay, this definition also includes traditional companies that use the Internet as an additional sales channel; for example, Land’s End, which is a traditional clothing retailer with Internet sales (Singh & Kundu, 2002).

We focus on *ibusiness firms* as a special type of E-business companies that use the Internet and other CBIS technologies to provide an Internet-based platform, which allows users to interact with each other. iBusiness firms offer CBIS-based platforms that create customer value by channeling and managing the input and interaction between users. Thus these firms do not act alone in the marketplace but depend on the participation of various actors. Through the Internet and other CBIS technologies, ibusiness firms connect various actors (individual users and firms) who interact with each other and who are responsible for the production and shaping of value-generating content on the platform. Unlike other types of E-business companies that, for example, generate value by selling products or services directly to users, ibusiness firms provide a platform that allows users to buy and sell products/services to each other or exchange information with each other. iBusiness firms generate value by providing the platform and organizing the input of users, as well as manage the cross-relationships of the various users. Representative examples of ibusiness firms include social network sites like [facebook.com](https://www.facebook.com) or [linkedin.com](https://www.linkedin.com), which offer a platform for private as well as corporate users to communicate and interact with each other; job websites like [monster.com](https://www.monster.com) or [indeed.com](https://www.indeed.com), which allow job seekers and hiring companies to interact with each other; travel sites like [hotel.com](https://www.hotel.com) or [tripadvisor.com](https://www.tripadvisor.com), which match user demand with the offers of travel service providers; or business-to-business platforms like [intertek.com](https://www.intertek.com), [importers.com](https://www.importers.com), or [alibaba.com](https://www.alibaba.com), which allow firms to interact and buy and sell products online.

Because ibusiness firms generate value in a unique way, we suggest that the internationalization process may differ. Since the core offerings of ibusiness firms are fully digital (providing a platform for connecting users) and are transferred over electronic networks they are instantly accessible from anywhere in the world; the costs of transferring an ibusiness firm's platform from one country to another are relatively small. Because of this we maintain that ibusiness firms will be influenced to a lesser extent by investment risks related to liabilities of foreignness (LoF) that, for example, physical product-based firms encounter when they internationalize (Denk, Kaufmann, & Roesch, 2012; Zaheer, 1995). LoF are created by unfamiliarity, relational hazards, and lack of legitimacy and impact the ability of firms to provide existing products/services in the

foreign market (Denk et al., 2012; Zaheer, 1995). When expanding to new foreign markets, firms have to learn to deal with the trade-off between the costs generated by LoF and the risks of making significant investments in the foreign market (Johanson & Vahlne, 1977). To manage this task firms often start with very small investments and over time learn how to operate in a given international market becoming embedded in the new host market (Eriksson, Johanson, Majkgard, & Sharma, 1997).

In contrast, we suggest that ibusiness firms have to deal with greater liabilities of outsidership (Johanson & Mattsson, 1988; Johanson & Vahlne, 2009), since their main concern is the creation of a large enough network of users to generate value on its platform. Liabilities of outsidership combines concepts from both internationalization process and network theories to suggest that when a firm enters a new foreign market it might be an outsider because it has few relations with other firms and potential collaborators in the foreign market (Johanson & Mattsson, 1988; Johanson & Vahlne, 2009). To resolve this issue firms take actions to minimize investment risks and to become embedded in the new foreign market; actions such as partnering with a local firm or licensing its products to a local organization (Anderson & Gatignon, 1986).

iBusiness firms suffer significant liabilities of outsidership because of the lack of embeddedness in the foreign market user community. For ibusiness firms liabilities of outsidership can be defined as the lack of direct ties to potential platform users in the target foreign market. While an ibusiness firm's platform is accessible from anywhere in the world, its offering only provides value for users if the number of users in a particular market along with the amount of interaction between these users reaches a critical mass (Katz & Shapiro, 1994). At the extreme, an ibusiness firm will have no users when it enters a new market and potential users will not be willing to adopt its platform because these potential users cannot interact with other users. As long as the number of users is low, the cost to users of adopting a platform will exceed the benefits (value) derived from using the platform and therefore network effects are not significant (Cennamo & Santalo, 2013; McIntyre & Subramaniam, 2009). Thus new potential users have no interest in adopting an ibusiness firm's platform unless the ibusiness is able to attract enough users such that it exceeds the critical mass; then the benefits for users are higher than

the costs and the platform becomes attractive for new users leading to self-increasing growth (Katz & Shapiro, 1994).

Since an ibusiness firm's value is generated by users and existing user networks are often not transferrable to the new foreign market, ibusiness firms need to concentrate internationalization efforts on developing a new network of users in the foreign country. The implications of this are that the main strategic concern of an ibusiness firm shifts from learning how to reduce investment risk generated by LoF and supplier/distributor network outsidership to learning how to minimize risks by developing a local and large enough network of users. iBusiness firms need to focus internationalization efforts on overcoming user-network outsidership issues to become embedded in the local user network by making potential users aware of the ibusiness firm's offering and get these potential users to adopt.

In this article we make a contribution by expanding existing internationalization process theory to ibusiness firms. Originally international process theory suggested that through experience firms learn to overcome LoF (Johanson & Vahlne, 1977). More recently scholars have suggested that networks can help speed up the internationalization process reducing certain LoF (Coviello & Munro, 1997; Johanson & Mattsson, 1988). However, this research also suggests that firms can be outsiders because they lack network connections in new foreign markets (Johanson & Vahlne, 2009). Building on this previous research and using case studies, we examine the process of internationalization undertaken by ibusiness firms.

We suggest that ibusiness firms are impacted to a lesser extent by LoF when they internationalize. Instead because their value proposition is dependent on having a large user base to provide value to users, ibusiness firms face increased liabilities of user-network outsidership. Therefore ibusiness firms direct internationalization efforts to overcoming outsidership issues by focusing on user adoption in new foreign markets. Because of this we suggest that social network theory as well as diffusion theory can help us understand and explain the internationalization process of ibusiness firms. Social network theory describes the characteristics of networks (groups of people or firms), which influence the actions of network participants (Brass, Galaskiewicz, Greve, & Tsai, 2004). Expanding on social network theory we theorize which network characteristics are relevant for

internationalizing ibusiness firms and explore how these features represent opportunities or challenges for overcoming liabilities of outsidership in the internationalization process. More specifically we develop a new perspective on how ibusiness firms can use existing user-network resources to overcome user-network outsidership issues when they expand to new foreign markets. Second, diffusion of innovation (Rogers, 2003) theory focuses on user adoption and the processes/mechanisms firms can employ to move from outsider to insider in a social system by convincing potential users to adopt its offering. Diffusion theory can help us understand which tools ibusiness firms can use to help overcome outsidership issues as they internationalize. In this way we make a contribution by developing theory and testable hypotheses that explain the internationalization process of ibusiness firms.

Background and Theory

Historically, a number of theories have been developed to explain how firms internationalize. Transaction cost analysis suggests that transaction costs occur because of asset specificity and market imperfections (Williamson, 1985). In the presence of high market imperfections (internal and external uncertainties) and asset specificity, firms tend to organize international operations through hierarchical organizations (Brouthers, Brouthers, & Werner, 2003). Other theories used to understand international expansion include the resource-based view (RBV) and the eclectic paradigm (EP). The RBV suggests that the portfolio of distinctive resources a firm controls forms the basis for achieving competitive advantage (Barney, 1991). In addition, it is not the mere possession of valuable resources that affects a firm's success but rather its ability to make proper use of them (Barney, 1991). Firms seeking international expansion should select a strategy that best exploits the firms' resources and capabilities (Brouthers, Brouthers, & Werner, 2008). The EP builds on both the transaction cost and resource-based perspectives and proposes that firms choose to engage in foreign direct investment based on an additional analysis of the attractiveness of foreign locations (Dunning, 2001).

According to internationalization process theory (Johanson & Vahlne, 1977) one of the resources which play a crucial role for international growth is experiential knowledge. Firms may lack knowledge about foreign markets and therefore face increased LoF and investment risks as they expand abroad. Because of this firms develop international activities over time and in an incremental fashion, based on the gradual acquisition of knowledge about foreign markets, thus reducing risks. However, research in this area provides mixed results. While some studies find evidence consistent with the assumptions of a process approach (e.g., Calof & Beamish, 1995; Johanson & Wiedersheim-Paul, 1975), others find no support for this theory (e.g., Benito & Gripsrud, 1992; Sullivan & Bauernschmidt, 1990) especially for born global firms that internationalize from inception (McDougall, Shane, & Oviatt, 1994; McNaughton, 2003).

More recently social network theory has been examined as the basis or, more specifically, the means by which firms internationalize (Johanson & Vahlne, 2009; Knight & Cavusgil, 2004; Oviatt & McDougall, 1995). Social network theorists recognize that the network within which firms are embedded affects competition by creating entrepreneurial opportunities for some firms and not for others (Ellis, 2000). Within a network each firm occupies a certain position (resulting from earlier activities in the network), which defines its development possibilities and therefore its strategic decisions (Coviello & Munro, 1997). Firms internationalize with the help of present relationships (with suppliers, distributors, and other alliance partners), which can serve as bridges to foreign markets, reducing both LoF and investment risks (Coviello & Munro, 1997; Sharma & Johanson, 1987).

This network perspective to internationalization is founded on the ideas formulated by Johanson and Mattsson (1988). The fundamental assumption of this approach is that industrial markets are nothing but networks of relationships firms have with their suppliers, distributors, and competitors. These relationships exist because firms are dependent on each other, since each of them possesses unique resources. By gaining access to these resources through interaction between firms in the network, each firm can produce and sell its products or services. These networks are both stable and dynamic: new relationships can be made and added to the existing ones and old relationships can be disrupted as well.

The internationalization process is, thus, influenced by both the characteristics of the individual firm and of the network within which the firm is embedded.

Studies have shown that networks (social ties) play an important role for international growth but that this impact can be positive or negative (e.g., Ellis, 2000; Harris & Wheeler, 2005; Uzzi, 1996). Network relationships can have a positive effect on internationalization, helping to trigger foreign market selection and foreign market entry (Coviello & Munro, 1995). By becoming embedded in an extensive and established international network, a firm can learn about new market opportunities for selling its products and services. Ellis (2000), for example, found that network relationships play a direct role in identifying exchange partners in foreign markets. Furthermore, networks can offer firms, in particular smaller firms unfamiliar with foreign markets, numerous possibilities to benefit and learn from the knowledge and experience of network partners to overcome or at least reduce LoF and to facilitate successful crossborder business activities (Hadley & Wilson, 2003). In addition, firms that lack essential resources can outsource activities, such as marketing or distribution to more capable network partners while minimizing relational hazards (Coviello & Munro, 1995).

But network contacts can place constraints on a firm's internationalization activities due to strong dependence on partners and loss of autonomy (Chetty & Holm, 2000; Coviello & Munro, 1995). Network partners may have enough control over the firm to continue to influence its internationalization process. A dependency relationship can develop where the firm experiences reduced international performance because it relies too much on network partners (Brouthers, Nakos, & Dimitratos, 2014). Coviello and Munro (1997) found that firms seeking more autonomy from network partners tend to diversify from core product areas, proactively pursue new markets, and/or establish own sales and marketing offices.

Despite these potential pitfalls, networks can help firms reduce the incidence of outsidership (Johanson & Vahlne, 2009). Liability of outsidership (LoO) is a recently developed concept that refers to the network a firm has and builds in order to help it do business both at home and as it internationalizes (Johanson & Mattsson, 1988; Vahlne & Johanson,

2013). When a firm enters a new foreign market it might be an outsider because it has few, if any, network relations in the foreign market. Outsidership means the lack of links with suppliers, distributors, and competitors in the new market, a lack of knowledge about the market and other resource constraints (Johanson & Vahlne, 2009). This lack of network connections and information about the new foreign market means that the firm will suffer from increased liabilities of outsidership. For example, the lack of direct network connections means that firms may suffer greater unfamiliarity with the location, may lack legitimacy because the firm does not understand how to adapt its products/services, and tend to suffer increased relational hazards, since the lack of connections means it is hard to determine which local firms to team up with and which to avoid. To help overcome this LoO, firms look for entry solutions that allow it to minimize costs (investment risks) while concentrating on developing networks in the foreign market built on trust, knowledge, and commitment to aid the firm as it tries to become an insider and get embedded in the local network (Johanson & Vahlne, 2009; Vahlne & Johanson, 2013). Overall, this line of research suggests that firm internationalization can often be understood from a network perspective (Coviello & Munro, 1995; Sharma & Blomstermo, 2003).

Internationalization of iBusiness Firms

We maintain that to understand the internationalization process of ibusiness firms some expansion and changes are needed to internationalization network theory. iBusiness firms leverage two dimensions of the Internet and other CBIS technologies to generate unique customer value benefits. One dimension captures the possible types of interactivity between a firm and its users as well as among users themselves: two-way (non-interactive) communication, reactive (quasi-interactive) communication, or fully interactive communication (Rafaeli, 1988; Rogers, 2003; Yadav & Varadarajan, 2005). iBusiness firms rely on fully interactive multilateral communication between its users. Here ideas, information, and/or goods are exchanged between the users generating user value. Usually an ibusiness firm provides an interactive platform for its users but

does not aim at strong direct interactions with its users; instead ibusiness firms encourage strong and fully interactive multilateral communication between users. The second dimension describes the novelty of the firms' offerings; its distinct and innovative products and services leading to a unique value proposition. Novelty is based on three elements: efficiency, complementarities, or lock-in effects (Amit & Zott, 2001; Dubosson-Torbay, Osterwalder, & Pigneur, 2002). The degree of novelty each firm provides varies according to the level of these three elements in the firm's business model. iBusiness firms usually have high novelty as they heavily use Internet and CBIS technologies in their business model, making it possible to provide efficiency, complementarities, and lock-in effects to its users. Hence we suggest that ibusiness firms are different from other firms because ibusiness firms take full advantage of the value creation benefits of the Internet and other CBIS technologies by providing an electronic platform for fully interactive multilateral communication between its users.

Because the platform offered by an ibusiness firm (which is user enabling and manages the interactions between users) is specific and different from the value proposition of other companies, its focus during internationalization will also differ. When most firms (whether online or not) internationalize, they need to take the products/services they provide with them and make these available in the new foreign market. This means they face concerns about investment risks resulting from LoF (Denk et al., 2012; Zaheer, 1995). As a firm internationalizes it has to deal with the trade-off between the costs generated by LoF, especially unfamiliarity or lack of market knowledge, and the risks of making significant investments in the foreign market (Johanson & Vahlne, 1977). In managing these trade-offs, firms often start with very small investments and over time learn about the new location (its customers, suppliers, competitors, rules and regulations) before committing further resources (Eriksson et al., 1997). Thus these firms tend to focus international efforts on choosing between various entry mode structures that impact the level of investment and access to knowledge, legitimacy, and relational hazards (Anderson & Gatignon, 1986; Johanson & Vahlne, 1977).

In contrast, ibusiness firms offer a virtual platform that creates customer value by channeling and managing the input and interaction of

various users. Because of this, ibusiness firm internationalization does not involve the transfer of goods to a foreign market but instead these firms must transfer the business model and sometimes also computer-based platforms. That is not to say that ibusiness firms do not encounter LoF. These firms do still suffer from some LoF but the impact is likely to be less marked – the constraints on international expansion and the nature of learning are likely to be different.¹ While issues of unfamiliarity and relational hazards are less of a concern for ibusiness firms because they have no physical products to sell, nor do they need to deal with suppliers or distributors in the foreign market, legitimacy is an issue. Legitimacy comes from several directions for ibusiness firms. Like other firms, ibusiness firms need to deal with discrimination due to being foreign. Locals may simply prefer to deal with a domestic ibusiness organization that provides a similar platform. Further ibusiness firms rely entirely on the availability and sophistication of the Internet and CBIS technologies in each country. Variance in these factors can discriminate against certain ibusiness firms, requiring extensive changes in the platform software to make it work. Finally, political actions can make an ibusiness firm more/less legitimate in a foreign country. Government fears over the impact of the ibusiness offering or its desire to benefit from the ibusiness offering might create a situation where ibusiness firm activities are restricted or taxed, reducing the value created for users.

Outsidership

Despite these risks, internationalization for ibusiness firms is less of a question of minimizing investments and learning how to reduce LoF but instead is a question of replication in a foreign market. Replicating an ibusiness firm's business model in a new foreign market means it needs to learn how to develop a local network of users. While transferring the platform is relatively easy and inexpensive, these firms normally cannot transfer the users (which generate the value of using the platform) from the home country to the new foreign country. Because an ibusiness firm only generates value when a critical mass of users adopts its platform, it has to figure out how to build a new user base in the new foreign location.

This can only be achieved if the ibusiness firm succeeds in getting potential users to adopt. Hence we suggest that an ibusiness firm faces lower risks associated with LoF (dealing mainly with issues of legitimacy), but these firms tend to suffer from greater liabilities of outsidership (Johanson & Vahlne, 2009), which play a major role in its internationalization process.

Outsidership issues arise because ibusiness firms may not be embedded in the foreign market user network and have no direct contacts with local users. This means that potential users in the foreign market might perceive uncertainty in adopting the firm's platform because they lack information to be able to predict the future size of the network (Schilling, 2003). Since the usefulness and value provided by an ibusiness firm to potential adopters depends on the number of other users who have already joined (or are expected to join) the network and with whom they can interact (Katz & Shapiro, 1994; McIntyre & Subramaniam, 2009; Weitzel, Beimborn, & Koenig, 2006), this lack of certainty can create a problem. If potential users expect that only a few people/firms will join the platform, these individuals/firms will not adopt since they do not want to take the risk of being "stranded" in a small network, which will not be able to offer enough value. This issue of liabilities of outsidership is different from any LoF created by the lack of legitimacy an ibusiness firm might encounter because it is a foreign entity; liabilities of outsidership have to do with the lack of direct ties to potential users in the local (foreign market) user network and as a consequence the difficulty in getting users to adopt the platform and generate value for other users. Therefore we argue that for ibusiness firms the question of how to internationalize has moved away from learning how to minimize investment risks by choosing the right entry mode to learning how to become embedded in the foreign market user network by undertaking the right actions to influence and manage adoption and build a critical mass of users.

When expanding to a new international country, ibusiness firms face one of three potential situations. First, it may be entering a market in which no other firm offers a similar platform. Here the firm faces a LoO because there is no user network at present and it has no direct ties to potential users in the foreign market. The ibusiness firm needs to determine how to let potential users know the platform exists and then

convince these potential users to adopt the platform. Developing a new set of users provides an opportunity to establish “first mover” advantages but also increases the costs/difficulty of entry (Eisenmann, 2006). Having shown that the platform appeals to a certain group of users in one country means that, although there are no users of this type of platform in the target country, chances are such “shadow users” do exist but are untapped. We suggest that shadow users can be of two types. The first are those aware of the platform type but unable to use it in their market. Through word-of-mouth, social networks and news articles potential users become aware of platforms even before they are available. Such shadow users provide pent-up demand for a platform once it enters the market. The second type of shadow users is those who have not heard of the platform but would be interested in using it if such a platform existed. These are more difficult to locate and motivate, increasing the costs of entry for first movers. But by entering the market and expanding rapidly the focal firm could profit by alerting these shadow users to the existence and availability of the platform and as such develop a large network of users, establish its brand, and set up switching costs before rivals. In this way the focal ibusiness can become embedded in the foreign market user network and establish an advantage over competitors. Yet there are potential pitfalls to such a strategy. The problem of developing a new network of users in a market where no actual users exist can be costly and a lack of market understanding (a liability of foreignness issue) might lead to ineffective recruitment efforts (Eisenmann, 2006). Furthermore, the size of the potential user network might not achieve critical mass; hence, the firm never reaches a level of profitability (Eisenmann, 2006). Despite these issues an ibusiness firm might still be interested in pursuing such international expansion, but needs to know how to develop and become embedded in the user network.

The second situation in which an ibusiness firm can find itself is where it wants to enter a foreign country in which a dominant platform already exists. Entering such markets is difficult and often leads to failure because the dominant firm has a large installed base of users, which generates switching costs that inhibit users from moving to new platforms (McIntyre & Subramaniam, 2009; Schilling, 2002). In these markets a new entrant faces both a LoO because it has no direct ties to foreign market users, as

well as barriers created by the incumbent's switching costs. Yet in certain circumstances entry into such markets might be successful (Zhu & Iansiti, 2012). In these markets three potential opportunities exist for overcoming switching costs. If the ibusiness has better technology or a strong brand, it might be able to attract current users from the existing platform provider, especially if user requirements change (Eisenmann, Parker, & van Alstyne, 2006; Schilling, 2002). For example, before Facebook entered the German market the local social network market leader was the VZ group of platforms (StudiVZ, SchulerVZ, and MeinVZ), which dominated the market with over 16 million users (Müller, 2010). Yet Facebook's entry changed all that, and Facebook now dominates the market (Haucap & Heimeshoff, 2014). This swift loss of market share has been attributed to Facebook's superior technology as well as poor branding with the VZ group (Müller, 2010). Alternatively, there are normally pockets of users whose needs are not being filled in any market (McIntyre & Subramaniam, 2009). By providing a platform that meets their needs, an ibusiness firm can try to attract such users and become embedded in the sub-user network (Eisenmann et al., 2006). Finally, the ibusiness firm might have better integration of required complementary functions (McIntyre & Subramaniam, 2009). This could make the firm's platform more desirable than the existing dominant platform and help to overcome the impact of switching costs. For example, eBay's integration of PayPal into the auction site allows users greater functionality than can be provided by two standalone platforms (one for auctions and another for payment). Leveraging such interconnected functionality can provide a more desirable platform for users and entice users to abandon the current provider. In any of these circumstances the ibusiness firm still faces issues of outsidership; it still lacks direct ties to foreign market users. This outsidership issue needs to be overcome in order to become embedded in the foreign market (sub-)user network.

The third situation that might confront an internationalizing ibusiness firm is entering a market that is just developing, having multiple rivals but without an established dominant platform. In this kind of market late movers can make important inroads (Cennamo & Santalo, 2013; Eisenmann et al., 2006). The late mover might benefit from entering such a market because there already exist a large and growing network of

users and switching costs tend to be lower in these markets (Eisenmann et al., 2006). Strategies in these markets often involve differentiation and positioning, avoiding direct competition and a race for domination (Cennamo & Santalo, 2013). Platform providers in these markets tend to search out and serve specific target segments, resulting in lower rivalry (Cennamo & Santalo, 2013). Here the ibusiness firm needs to concentrate efforts on quickly becoming embedded in the local user network and attracting both new users as well as users of other competitor platforms. In this type of market (and others) being a user-network outsider has significant long-term consequences, because potential users tend to adopt the platform that they expect to have the largest user network, thus providing greater value to its users (Schilling, 2003). In these markets the primary internationalization concern for the ibusiness firm is to move quickly from user-network outsider to insider; to become embedded in the foreign country user network. Doing so enhances the firm's chances of generating enough users to reach critical mass and obtain a secure position in the foreign market (Eisenmann, 2006).

Social Network and Diffusion of Innovation Theories

Both social network theory and diffusion of innovation theory (DIT) can help us understand the internationalization process of ibusiness firms and how these firms can overcome liabilities of user-network outsidership because these two theories deal with adoption and thus focus on how firms move from (user-)network outsiders to insiders. Social network theory (Granovetter, 1973; Milgram, 1967) explores how people, organizations, or groups interact with others inside (and outside) their (social) network. At the core of the theory are the relationships (ties) between the various actors in a social network. Especially relevant are the type and function of the ties. Network actors (people and or organizations) can have direct strong or weak ties to others in their network (Bian, 1997; Granovetter, 1973). Direct strong ties involve frequent and intense interactions between actors in a network. Direct weak ties involve infrequent and low-intensity interactions between actors. These differences in direct strong and weak ties have been linked to different benefits including

information exchange, trust, and obligations (Bian, 1997; Granovetter, 1973). Yet networks can also provide indirect ties (Bian, 1997; Shane & Cable, 2002). Indirect ties involve third parties that function as a bridge between two unconnected actors or networks (Burt, 1992). In particular, indirect ties can be influential in generating trust and confidence in individuals or organizations with whom there was no direct contact (Bian, 1997; Shane & Cable, 2002). Thus indirect ties can reduce perceptions of risk and uncertainty while increasing perceptions of competence.

Research on foreign expansion from a social network perspective improves our understanding of how firms build on existing network links to become embedded in new markets. Social network theory suggests that direct ties with dissimilar actors are valuable for internationalization-seeking firms (e.g., Prashantham, 2008). These ties offer novel information about new market opportunities due to fewer common links and can thus help to bridge structural holes between markets. Moreover, this research points out that firms can deploy home-based social networks as bridging ties to internationalize (e.g., Zhou, Wu, & Luo, 2007).

Furthermore, there is evidence that firms with large networks are able to internationalize earlier and more successfully than firms with less extensive networks, since the potential access to information and other resources increases with network size (Frederico, Kantis, Rialp, & Rialp, 2009; Knight & Cavusgil, 2004; Oviatt & McDougall, 1995). Hence current social network literature implies that there might be benefits arising from an ibusiness firm's current user ties to other potential users in the target market. The more users an ibusiness firm has in its network, the higher the volume of indirect ties to other potential (foreign market) users and the more information new potential foreign market users have about the ibusiness, reducing outsidership.

Second, DIT (Rogers, 2003) identifies various processes or mechanisms that can help firms become embedded in the foreign user market by initiating and accelerating user adoption (of an ibusiness firm's platform in our case). These factors include the communication channels through which information about an innovation travels, the nature of the social system, and the deployment of opinion leaders and change agents. Communication channels are an important element of DIT, since diffusion primarily concerns the communication of information about inno-

vations (the ibusiness' offering) to one or more people (Rogers, 2003). Information can travel by means of interpersonal communication channels or by means of mass media channels. Mass media channels are more powerful at the beginning of this process, providing information about the foreign ibusiness (Rogers, 2003), helping the firm establish legitimacy in the market. Interpersonal channels are effective with respect to the final stages of an adoption process and can aid a firm to become more embedded in the new foreign market (Rogers, 2003).

DIT research also suggests that there are some individuals in a social system who function as role models for others (Flynn, Goldsmith, & Eastman, 1996; Rogers, 2003) or agents of change (Eisenmann et al., 2006; Rogers, 2003). Role models act as opinion leaders within their communities and can be important determinants of rapid and sustained change in attitudes and behavior, which accelerates the move from network outsider to insider. The existence of opinion leadership is based on the idea that other people seek and follow their advice or behavior (Flynn et al., 1996). Change agents are individuals or organizations that influence the innovation decision of potential adopters in a way considered desirable by the change agency they work for (the ibusiness firm in this case). Change agents can, among others, be consultants, teachers, or salespeople (Rogers, 2003). They are employed or contracted by an organization (change agency) that wishes to diffuse an innovation, again providing an effective mechanism to move from network outsider to insider by convincing potential users to adopt the ibusiness' platform. Change agents are different from opinion leaders in that they are usually external to the social system in which an innovation is supposed to diffuse and thus are not as effective in integrating the firm into a new network. They are usually not the primary target group for an innovation, whereas opinion leaders belong to the relevant adopter group.

In sum, we theorize that because value creation for ibusiness firms is based on the ability of these firms to build a new network of users in the foreign market, internationalization theory will need to be expanded to encompass this notion. iBusiness firms, we suggest, will focus on learning how to overcome issues of user network outsidership by using its existing social network and diffusion of innovation mechanisms to persuade potential users to adopt the firm's platform in the foreign market. Hence

to be successful, the internationalization process of ibusiness firms will build on concepts dealing with social networks and diffusion theories in order to move from a usetwork outsider to an insider and become embedded in the foreign market user community.

Method

To gain greater insights and investigate in more detail the internationalization process of ibusiness firms, we followed an explanatory case study research method (Eisenhardt, 1989; Yin, 2003) since this method is deemed useful when there is no established theoretical base that describes and explains the phenomenon (Benbasat, Goldstein, & Mead, 1987). Case methods can thus help in the development of new theories (Eisenhardt, 1989; Yin, 2003). With explanatory case study research we adopted a positivist perspective (e.g., Dubé & Paré, 2003). This method allowed us to gain knowledge about the internationalization processes of ibusiness firms and provides a rich description for each ibusiness firm, capturing its idiosyncrasies but also allowing us to compare data across cases to be able to draw generalizable conclusions and develop testable hypotheses.

The research procedure followed the guidelines developed by Yin (2003) and the recommendations for rigor in positivist case research by Dubé and Paré (2003). We followed a multiple case design. Multiple cases deepen the understanding of a particular phenomenon and help generate more powerful explanations than a single case design. Furthermore, the evidence from multiple cases is often regarded to have more compelling support for the development of testable hypotheses, hence rendering the overall study more robust (Benbasat et al., 1987; Yin, 2003).

The theoretical basis that guided our selection of case firms was the business model that describes the major components of a business, which help capture a holistic picture of a business (Timmers, 1998). Our review of the literature on E-business firms revealed that there are a variety of business models used by these firms ranging from simple e-tailers and e-malls to more sophisticated models like virtual communities, information brokers,

portals, marketplaces, or transaction brokers (Lam & Harrison-Walker, 2003; Laudon & Traver, 2007; Mahadevan, 2000; Timmers, 1998). To identify the business models that fall under our definition of an ibusiness firm, we qualitatively mapped the different business models onto a graph that looks at the two dimensions for describing an ibusiness firm: interactivity (unilateral, bilateral, or multilateral relationships between users) and novelty. The second author undertook the initial mapping exercise, which was independently reviewed and revised by each of the other authors. Based on this mapping exercise we identified the following business models that we believe meet our definition of an ibusiness firm (firms high in both interactivity-between-users and novelty): virtual communities and marketplaces/transaction brokers.

Virtual communities (e.g., Facebook. com) provide a platform for users with similar interests and needs to communicate and exchange ideas and other information and to develop social relations (Hagel & Armstrong, 1997). These platforms provide tools to support participant communication, such as email, message boards, or chatrooms (Lee, Vogel, & Limayem, 2003). Often these platforms also offer more sophisticated tools, such as network games, for higher and more long-term interaction. Users include individuals who create personal profiles on the virtual community platforms, but users also include third parties (firms) that offer products and services (e.g., games) and integrate them into the platform, thereby adding value to the virtual community. Content is created not by the platform provider but by the mutual interaction of various users who build multilateral relationships to each other. This relationship-building aspect lies at the heart of virtual communities (Hagel & Armstrong, 1997).

Marketplaces or transaction brokers provide a platform not only to facilitate communication between users but, more specifically, to bring together buyers and sellers and allow them to trade goods/services (Laudon & Traver, 2007). A marketplace can be specialized in one industry or can offer an array of different goods/services. Such firms include auction business models, such as eBay that let buyers bid for products, or models in which sellers offer a fixed price. Similar to virtual communities, the content (i.e., goods to be sold) and value is not created by the platform provider but by the users who build multilateral relationships to each other.

Once we determined which business models qualified as ibusiness firms we went about case selection. We were looking for firms representing the two previously mentioned business models. By selecting firms from both business models it would be possible to show that the choice of internationalization processes used by these firms is not a function of a particular business model but can be generalized to the different types of ibusiness firms. Furthermore, we decided to select ibusiness firms headquartered in Germany, since strategic decisions like internationalization are usually made at headquarters and two of the authors were based in Germany, which helped facilitate contact and communication. Focusing on German ibusiness firms also has the advantage of minimizing problems resulting from language and cultural barriers in data collection and helps control for potential national cultural differences that may distort results. Finally, we looked for ibusiness firms, which had already internationalized to foreign markets so that they could help explain the internationalization process.

Based on these criteria we compiled a list of German ibusiness firms from various sources, including stock indices such as Dax, MDax, SDax, TechDax; websites such as deutsche-startups.de (provides an index of German Internet start-ups) and folden.de (provides directories about firms with various online business models both in Germany and worldwide); and from member directories of technology associations such as Bitkom (Federal Association for Information Technology, Telecommunications, and New Media), *eco* (Association for the German Internet economy), and VIR (umbrella association of the online travel industry). In total we identified 22 marketplace firms and 16 virtual community firms. After several attempts to persuade these firms to take part in our study, we ended up with a final sample of nine organizations (seven marketplaces and two communities).

Case data were collected using triangulation techniques but came mostly through semi-structured interviews with top managers in each ibusiness firm, from external sources such as press articles, and through the review of internal sources such as annual reports. For the interviews we specifically sought managers who are responsible for the international expansion of their business. Depending on the size of the organization, potential interviewees were either the company's CEO or the head of

international business development. Data collection started in July 2010 and lasted 6 months. During the analysis process additional questions came up, where we realized we needed more information on certain aspects. In those instances we returned to the interviewees and conducted a second interview. All interviews were recorded and later transcribed. For five cases, managers were interviewed in person, while the other four cases involved phone interviews. Both types of interviews followed the same procedures. We noted no significant differences in the quality of information given or in the interview duration between these two techniques. The average length of each interview was 50–60 min.

Case Protocol

To help understand what processes lead to successful ibusiness firm internationalization, we gathered data on the most successful international market. The case protocol included theory-driven questions with the goal to develop a clear understanding of the processes these firms used to internationalize. As such the protocol included open-ended questions to allow participants to comment on issues they considered important. The order of questions varied if a particular respondent led to one of the other questions. This helped us gather as much information on the process of internationalization as possible to satisfy the how and why questions, but also allowed us to focus on particular topic areas. Finally, there is some confusion about measuring our dependent variable target market adoption. In the marketing literature, the predominant indicator of adoption for new products is sales within a certain period of time (e.g., Helsén, Jedidi, & DeSarbo, 1993; Mahajan, Muller, & Bass, 1990). In the IT literature, however, adoption is understood as an innovation to be in use (e.g., Iacovou, Benbasat, & Dexter, 1995; Thong, 1999). Hence we used sales and number of “users” as indicators for target market adoption.

More specifically, the case protocol was divided into four sections. The first section asked interviewees very specific questions about the size of the firm, including the number of users, and about the number of foreign markets served to understand the firm’s degree of internationality. The second section requested information on the interviewees’ position, their

involvement in strategic decisions, and their employment duration within the firm. The third set of questions was used to obtain information on the international markets the firms serve and the timing of market entries. In addition, we ask respondents which foreign market they would consider the most successful and whether they were involved in establishing operations in these markets.

The fourth section included questions to explore the ibusiness firm's internationalization process. We asked if and how a certain strategy was implemented (for each of the strategies suggested by network and DIT theories for overcoming outsidership), how intensively they were undertaken, and how successful the strategy turned out for them. Following DIT, we asked about the use of three specific mechanisms for dealing with adoption: mass media, opinion leaders, and change agents. For opinion leaders and change agents we gathered information on how many and who they were, and what tasks they did to better judge if they actually undertook these actions. Furthermore, we included questions on partnerships the firms formed for internationalization to check if they, in fact, followed the idea of opinion leadership or change agency. As social network theory postulates, ties of existing users can be helpful to bridge gaps into a new foreign market (Coviello & Munro, 1997). To capture this impact we asked about the size of the firm's user network at the time of market entry as well as if and how the ibusiness firm asked its current users to activate their social contacts in the new market. Finally we enquired about other strategies or processes the firm might have used during the internationalization process.

Results

After data collection, all cases turned out to be usable, although in one case (Tradehub) the managers would not specify the most successful market. We performed within-case data analysis to develop an in-depth understanding and description of each case (Eisenhardt, 1989). We also used cross-case analysis, which involves comparing cases and searching for similarities and differences or patterns. Cross-case analysis helped as we developed testable hypotheses. We followed the mixed strategy para-

digm (Huberman & Miles, 1994) because our main purpose is to find out what processes ibusiness firms use when they internationalize and how these may differ from existing internationalization theory. At the same time, we sought to take advantage of each case's idiosyncrasy and to find out about particular conditions, which can deepen our understanding about how ibusiness firms internationalize. Table 7.1 provides details on each of the nine original case companies (names have been changed to provide anonymity), while Table 7.2 provides data on the unique internationalization processes undertaken in the most successful foreign market (more traditional processes like acquiring a competitor and interpersonal communications were not included).

Social Network Theory and Internationalization

The majority of our case firms had a large global network of users (Table 7.1) and exploited these users' international ties (Table 7.2) to help move from network outsider to insider when expanding to their most successful markets.

Yes, of course. The goal is to internationalize with current users – German users which have a global business – and to tell them ‘OK, we want to launch this [our service] now and your employees can and should use this [in France].’ You always have to regard this as a kind of network. This depends, of course, highly on how autonomously the local organizational units or subsidiaries can decide what to use ... The fact that they had their headquarters in Germany indeed helped get our foot in the door in France, in terms of ‘yeah, this is established, it works well, we already use it, etc’.
(Lodgenex)

Column 1 of Table 7.2 (Use of Global Ties of Users) indicates the strength of use of these ties. It shows that seven out of the nine cases used international ties of its users to expand to the most successful markets with Lodgenex and Hubnex executing this strategy most intensively. For Consumernex and Oldbuddies international contacts of users did not play any role.

Table 7.1 Summary of case study companies

Firm	Industry	Business model	Business segment	Interviewee	Number of employees	Number of users	Number of foreign markets	Most successful market	Least successful market
Lodgenex	Hospitality	Matching platform	B2C B2B	Head international development	500	20,000 corporate 7.2 million private 250,000 suppliers	32	France	UK
Globalstay	Hospitality	Matching platform	B2C B2B	Head corporate communications and co-founder Head international development	414	289,000 corporate 2.2 million private 210,000 suppliers	17	France	UK
Jobnex	Recruitment	Matching platform	B2C	Head international development	44	2 million job seekers 11,000 employers and headhunters	8	France	Austria

Hubnexus	Aviation	Matching platform	B2B	CEO	12	6000 companies	Global (150 countries)	North America	Russia
Transactionport	DELETED	Matching platform	B2B	CEO	DELETED	DELETED	4	Austria and Switzerland	DELETED
Oldbuddies	Social community	Community platform	C2C	Head member services and co-founder	100	2.0 million users	4	Sweden	France
Consumernex	E-Commerce	Community platform	C2C B2C	Head of sales	200	3.0 million users and 45 million visitors	6	Italy	UK
Travelglobal	Travel	Matching platform	B2C	French country manager	77	296,000 users and 10 suppliers	1	France	None
Tradehub	Media and entertainment	Matching platform	B2B	Business development manager	12	1100 companies	Global	No specific market	No specific market

Table 7.2 Internationalization process use

Case	Social network theory	Diffusion of innovation theory		
	(1) Use of Global Ties of Users	(2) Use of Internet-Based Mass Media	(3) Use of External Opinion Leaders/ Partners	(4) Use of External Change Agents/ Partners
Lodgenex	High	Medium	Medium/Partners	High/No
Globalstay	Medium	Medium	Medium/Partners	Low/No
Jobnex	Medium	Medium	Medium/Partners	Medium/No
Hubnex	High	High	Low/Partners	Low/No
Transaction	Medium	Medium	No/Partners	Medium/Partners
Port				
Oldbuddies	No	High	No/Partners	No/No
Consumernex	No	Medium	No/No	Low/No
Travelglobal	Medium	High	Medium/No	Medium/No
Tradehub	Medium	Medium	Medium/Partners	High/No

In retrospect, it’s hard for me to recall whether we’ve ever considered this strategy. I think, we just didn’t believe it would work. Well, we could definitely see how many German users asked us ‘Why don’t you take school XY as a school abroad into account? Since I spent a school year there in the US, or in Sweden, or wherever and I’d like to add this school to my profile.’ But there were just too little who inquired about that. I can imagine ... you know, let’s put myself into the shoes of users ... I don’t think that would be important to me. Because – let’s say we had 5000 users to which this case would apply, that is they spent some significant time somewhere abroad. But whether they would put this information on their profile and read our mail or whatever and look for old friends they got to know abroad or invite these friends... I mean, you could put an effort into these 5000 users. That’s what you could do, but needn’t do. (Oldbuddies)

Hence our case study evidence tends to indicate that the activation and use of the ties of existing global users is an important component of the internationalization process for ibusiness firms.

Contrary to our expectations none of the case firms offered any incentives to encourage current users to activate their foreign market ties.

Several reasons were provided for this lack of incentives. Mostly the case firms tended to assume that corporate users were willing to tap into their international network if they were satisfied with the firms' product and services and were convinced of its benefits.

I can't really say why. Let me think about it ... whether it [offering incentives] would be a good idea to do this. You need to make it [recommendation system] observable ... You always have to keep in mind that such an activity with such an extent needs to be perfectly observable. That is, when I approach, let's say, 1000 users or 10,000 users and ask them to recommend Globalstay to their friends or family in France I need to make sure that I have the technological infrastructure and an output system that allows me to satisfy the user. Since I can't promise A something 'you'll get this or that' if I won't be able to keep the promise. And if you ask me now what the reason for not having done this [the strategy] is, then that's my reasoning ... or my answer ... But I'll definitely research this later. I consider this to be interesting and relevant so that I am making a note right now to rethink this. (Globalstay)

DIT and Internationalization

As Table 7.2 (Column 2) indicates Internet-based mass media communication channels were widely used in all of the cases under investigation to help speed the move from user-network outsider to insider. Firms mostly relied on online communication channels to contact multiple potential users. There appear to be two driving forces for this choice. First, online communication channels can be accessed at much lower costs compared with off-line mainstream media channels like television, mass mailings, or magazine advertising. The second reason ibusiness firms tend to prefer online communication channels is that they provide better performance tracking of marketing activities. With online communication channels it is easier for ibusiness firms to be target-specific and to create awareness for their platform in the target market. Especially search-engine-marketing and search-engine-optimization (to get listed as high as possible among search results and to appear among the results for as many relevant keywords as possible) can be easily tracked using standard tools

(e.g., offered by Google). In addition, these communication channels are easy to implement and require less financial resources. The managers suggested that:

It, of course, only makes sense if we succeed in transferring these actions more or less 1:1 to at least four, or even better fifteen to twenty countries. And that works much better with online channels such as Google, search engine optimization, and the affiliate program ... We have one credo that says 'an action, no matter how, needs to be measurable'. The outcome must be measurable. So print, and radio, and TV can be eliminated at this point. (Globalstay)

We gain a major part of our users directly via the [Internet] medium. And if we worked offline there would be, of course, a media disruption. It is much more difficult to reach people offline and then to make them go to our platform. This is just harder to achieve than if you approach them online. Because in the Internet case the way to our platform is just a click away, so to say. Well, this is much more successful. And that's why we focus on them [online media channels]. (Hubnex)

There are two ways for ibusiness firms to use opinion leaders in foreign markets: first, they could directly work with external opinion leaders in the foreign market or, second, they could form partnerships with other firms, which would serve as opinion leader for the ibusiness firm's offering. Our case data indicates that in six out of nine cases ibusiness firms implemented the strategy of external opinion leadership to help become embedded in the user network in their most successful foreign market (Table 7.2, Column 3). The other three cases did not consider external opinion leaders for internationalization. Furthermore, seven out of nine firms formed partnerships with other firms, which acted as opinion leaders in the foreign market. Managers suggested that:

With respect to opinion leaders: I think they equal our strategic partners we have. Well, because they're bigger companies and they're more well-known and they're equipped with a certain network. And they're just capable of opening doors for us ... On the other hand these successful strategic

partnerships provide us with ‘best practice’ examples and of course, we benefit from them by marketing them and use them for approaching other potential customers. (Tradehub)

Of course we tried to gain known affiliate partners. They [partnerships] are, so to say, a kind of brand. and potential users see that and think ‘well, if they work with them ...’. They have some sort of representativeness. (Lodgenex)

In the end, it appears that in all but one case (Consumernex) external opinion leaders and/or partners were used to help accelerate adoption and internationalization in foreign markets for ibusiness firms.

DIT also suggests that change agents can help accelerate the move from user-network outsider to insider in foreign markets. Again, firms have two ways to implement change agents: first, the firm can use (external and/or internal) change agents when expanding to foreign markets, second they may form partnerships with other firms that bear the typical characteristics of change agents. As can be seen from Table 7.2 (Column 4), all of the firms (with the exception of Oldbuddies) employed change agents in the most successful foreign market. The respondents indicated a preference for the use of external change agents in most cases. Our results show that only Transactionport formed a change agent partnership.

Discussion, Limitations, and Conclusion

In this article we theorized that for ibusiness firms the internationalization process is dependent to a large extent on becoming an insider in the target market user network because these businesses only work when there are a sufficient number of users to create value for other users (Cennamo & Santalo, 2013; McIntyre & Subramaniam, 2009). Although international process theory suggests that outsidership is an issue that influences internationalization success (Johanson & Vahlne, 2009), as our case evidence suggests for ibusiness firms this outsidership issue appears to be focused on user-network outsidership instead of supplier/

distributor networks. iBusiness firms often start the internationalization process as a user-network outsider. This creates a situation where potential foreign market users are plagued by uncertainty due to the danger of being “stranded” in a network that is too small to leverage demand-side economies of scale and thus produce little value for users (Katz & Shapiro, 1994; Weitzel et al., 2006). As a result of this user-network outsidership and potential users’ inherent uncertainty about the future size of its network, ibusiness firms have difficulty attracting users in new foreign markets.

Based on this we suggest that for ibusiness firms internationalization process theory (Johanson & Vahlne, 1977; Vahlne & Johanson, 2013) needs to be extended to focus on how an ibusiness firm can move from user-network outsider to insider in a new foreign market. Below building on our case data and insights from both social network and diffusion of innovation theories, we develop testable hypotheses that can help us gain a greater understanding of the internationalization process of ibusiness firms. Figure 7.1 shows the resulting ibusiness firm internationalization process model, explaining potential actions that ibusiness firms need to take to be successful in a new target market. In general, social network theory suggests

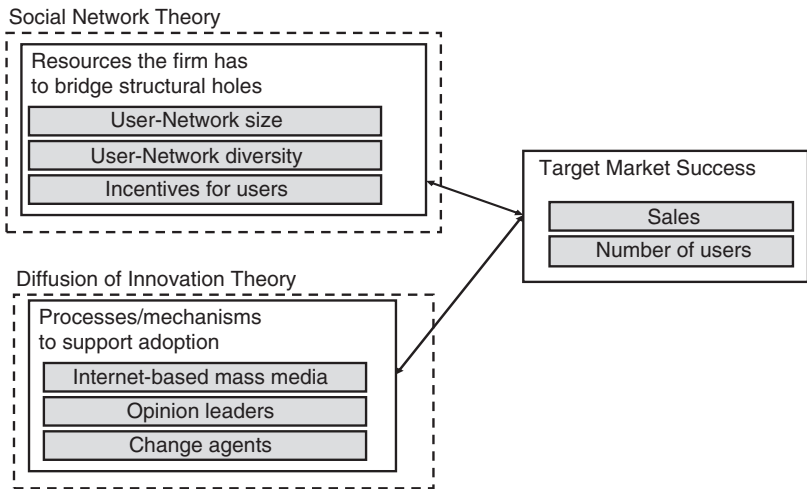


Figure 7.1 iBusiness firm internationalization model

that ibusiness firms should activate and use its user network to bridge structural holes between different markets. In addition, DIT suggests focusing on mechanisms that increase the adoption of the ibusiness firm's platform in the new foreign market. All actions aim at reaching a critical mass of users as fast as possible to allow self-sustained growth.

From a network perspective ibusiness firms tend to suffer from outsidership when internationalizing because they lack direct access to a network of users in the new foreign target market. We suggest that this missing link to a foreign network of users corresponds to Burt's concept of structural holes, which represent gaps between two or more individuals or groups of individuals where there is no information flow because people tend to focus on activities inside a group (Burt, 1992, 2004). In our context, structural holes describe the situation where firms are embedded in business relationships in one market and lack direct access to networks in another market. According to Granovetter (1973) and Burt (1992) indirect ties have the ability to connect two or more distant networks and help bridge structural holes between them.

Research indicates that firms with larger networks tend to have more indirect ties (Baer, 2010). This implies that ibusiness firms with a greater number of current users in its network (network size, Figure 7.1) will have more indirect ties, which the firm can use when expanding to a new foreign market. Current users in one market may have contacts with potential users in other (foreign) markets. To help reduce outsidership in new foreign markets, the ibusiness firm can use its current users as a bridge to foreign users, providing information and recommendations for the ibusiness firm (Zhou et al., 2007). These actions can reduce potential user uncertainty, improve confidence (Shane & Cable, 2002) in the ibusiness firm, and stimulate adoption during the internationalization process, helping to move the ibusiness firm from user-network outsider to insider. Evidence from our case studies provides some support for these ideas. Our ibusiness firms indicated that they used current network members to help reduce outsidership issues as they expanded to their most successful new international market. Yet it is not clear from our evidence if an ibusiness firm with a larger network of current users actually gains greater benefits compared with an ibusiness firm with fewer current users in its network, since both types of firms undertook these actions as they expanded abroad.

Network theory also suggests that network size alone cannot guarantee these benefits. Burt (1992) considers diversity of contacts in a network to be equally important for richness of resources. Network diversity is the existence of ties that provide access to individuals or organizations that cross boundaries otherwise inaccessible to the individual/firm (Baer, 2010; Burt, 1992). A large network will not provide valuable resources if all actors in this network are closely tied to each other (Baer, 2010). According to social network theory, diverse network ties can provide new resources that are more likely to be beneficial for an actor's purposes (Baer, 2010; Granovetter, 1973). An important dimension of network diversity is geographic diversity (Goerzen & Beamish, 2005). We suggest that including the number of foreign locations where the firm has already established a network of users in our model of ibusiness firm internationalization takes into account the diverse resources in its network.

The geographical dispersion of current network members provides two benefits. First, it will ensure that users in this network will not be closely tied to each other and that this network offers diverse indirect ties to potential users in new foreign markets, thus providing improved benefits of size, compared with firms possessing similar sized networks of current users but in one or a few countries. Users in one country normally have close ties to other users in the same country but might also have weak ties with potential users in other countries. These links develop over time, through travel, immigration, education, and sharing of values and language (Uzzi, 1996). Users in some countries might have closer cultural links with users in other countries, share a common language, or be geographically closer; potentially providing more resources for bridging contacts between unrelated networks (the current user network and new foreign market network). iBusiness firms with more diverse current user networks made up of users in more countries might have greater network resource advantages because of these inter-country links, which provide indirect ties to potential users in a new foreign market, reducing potential user uncertainty in these new markets. Thus ibusiness firms with more geographically disperse current user networks can use these networks to lower liabilities of outsidership and stimulate adoption in new foreign markets. Again our case data provides some support for this perspective.

We found that ibusiness firms with operations in more international locations could call on users in these different markets to help gain new users in new foreign markets. Yet our case evidence is not sufficient to untangle the impact of size vs diversity or to determine the magnitude of this impact.

Geographical dispersion of an ibusiness firm's current user network can also provide a second benefit. iBusiness firms that have established user networks in more international markets will have developed processes for overcoming liabilities of outsidership and increasing adoption in foreign locations. Through past internationalization activities, firms learn how to deal with outsidership issues and develop routines and procedures for becoming embedded in new foreign markets (Hadley & Wilson, 2003). These routines and procedures can be applied to new internationalization efforts and reduce the impact of outsidership. In discussions with our sample of ibusiness firms, there was evidence that ibusiness firms that had internationalized more often used a more "process-oriented" approach to new international expansion, vs those ibusiness firms that were relatively new at internationalization. More experienced firms indicated that they had learned lessons from past efforts and applied this knowledge to new internationalization moves. The managers we spoke to suggested that using this knowledge helped them develop processes that made new entries easier. Thus it appears that ibusiness firms that have expanded to more international locations will have developed more refined tools for achieving embeddedness in new user networks, aiding the adoption process. Overall, these network theory arguments and our case data suggest that ibusiness firms can use the resources they have developed to overcome some of the liabilities of user-network outsidership that they encounter when expanding to new foreign markets.

Hypothesis 1: iBusiness firms with a larger network of users outside a target market will be more successful at stimulating user adoption in that new foreign market compared with ibusiness firms having a smaller network of users outside the target market.

Hypothesis 2: *Ceteris paribus*, ibusiness firms with user networks in more countries will be more successful at stimulating user adoption in a new foreign market compared with ibusiness firms having user networks in fewer countries.

Network theory also suggests that offering incentives may be effective in getting satisfied users to recommend an ibusiness firm and its offerings (Wirtz & Chew, 2002). Ryu and Feick (2007) found that rewards for referral had a positive effect in the case of weak ties; and ibusiness firm users' social ties spanning international markets are mostly weak ties. Hence we suggest that ibusiness firms can gain additional benefits and improve the bridging activities of its current user network when expanding abroad by incentivizing current users to use their personal networks to promote foreign market adoption of the ibusiness firm's platform. Even if users are satisfied with the offerings of an ibusiness firm they may not think about recommending it to the people they know in foreign markets. As a result we suggest that providing incentives to current users to reward them for making their international social contacts available to the firm should result in increased adoption in foreign markets and help the ibusiness firm move from user-network outsider to insider. Although our case studies provide no evidence of the use of direct incentives to get current users to help with foreign user adoption, network theory tends to suggest that such actions will improve results. Thus based on network theory we suggest that:

Hypothesis 3: iBusiness firms providing incentives for current users to activate their personal ties in foreign markets will be more successful at stimulating foreign market user adoption compared with ibusiness firms that do not use incentives.

Our theory and case study data also suggest that a diffusion perspective (Rogers, 2003) may need to be added to internationalization process theory for ibusiness firms. Diffusion theory can help improve our understanding of user-network embeddedness because it deals with the processes or mechanisms firms can use to overcome outsidership in new markets. We found strong case evidence of a connection between the use of differ-

ent communication channels, user adoption, and internationalization success. As theory suggests, mass media can quickly raise the overall level of awareness about an innovation in a social system (Fidler & Johnson, 1984). Mass media includes radio, TV, newspapers, magazines, and the Internet, and can be a strong communication channel when it comes to creating awareness about an innovation and fostering a generally positive attitude (Coleman, 1993; Rogers & Shoemaker, 1971). Traditional mass media channels tend to supply information that is general and non-specific, and is an effective method to quickly deliver information to a large number of people. Awareness of an innovation can help reduce potential user uncertainty (Rogers, 2003). Mass media communication channels can be used by ibusiness firms to reduce liabilities of outsidership in user networks as they internationalize because it can provide information to a large number of potential users at a relatively small cost.

Our case data indicates that ibusiness firms do not rely on traditional mass media communication channels like radio, TV, newspapers, or magazines as the costs and coverage of these channels are seen as too high and untargeted, making it difficult to reach potential users. Instead, ibusiness firms tend to rely on Internet-based mass media channels. Such channels provide much better tracking and can be targeted to potential users, thus reducing potential wasted coverage compared with traditional mass media channels (Chandra & Kaiser, 2014; Goldfarb & Tucker, 2011). Another reason ibusiness firms prefer to use Internet-based mass media channels is in the nature of an ibusiness itself; which offer an Internet-based interactive platform. When using Internet-based mass media channels, potential users can be directly pointed toward (linked electronically to) the offer of the ibusiness firm; there is no media break between the marketing channel and the Internet-based interactive platform offered by the ibusiness firm (Chandra & Kaiser, 2014; Goldfarb & Tucker, 2011). This is a strong advantage for Internet-based mass media channels in comparison with traditional mass media channels like radio, TV, newspapers, or magazines, which must convince users to take the time to physically go to a service available only online. Based on this we suggest that:

Hypothesis 4: *Ceteris paribus*, ibusiness firms making greater use of Internet-based mass media channels will be more successful at stimulating

user adoption in a new foreign market compared with ibusiness firms using Internet-based mass media channels to a lesser degree.

DIT suggests that there are two other important mechanisms that firms can use to improve the opportunities for adoption: Opinion leaders who act as role models for others (Flynn et al., 1996; Rogers, 2003) or change agents (Eisenmann et al., 2006; Rogers, 2003). Opinion leaders exert influence on individuals either through direct interpersonal contact or through observation. Our case study evidence tends to indicate that the use of opinion leaders is linked to ibusiness firm internationalization success. Opinion leadership is often tied to the actual consumption of a product or service (Shoham & Ruvio, 2008); opinion leaders have more experience with these goods/services. Opinion leaders are further characterized as being more innovative and more often exposed to mass media (Foxall, Goldsmith, & Brown, 1998; Rogers, 2003). Using opinion leaders can reduce liabilities of user-network outsidership because opinion leaders signal the value of new technologies to potential adopters lessening uncertainty about future network size (Rogers, 2003). As a consequence, opinion leaders can accelerate adoption in a social system (Turnball & Meenaghan, 1980).

By targeting local opinion leaders in foreign markets and by getting them to adopt a new ibusiness firm platform, firms hope to encourage and accelerate adoption among other members of the social system in these markets. Based on studies (e.g., O'Neill, Poudier, & Buchholtz, 1998), which show that innovations can diffuse from organization to organization similar to the diffusion process among individuals, Rogers (2003) concludes that opinion leadership is a concept that applies both to individuals and organizations. Individual opinion leaders include, for example, famous and highly active bloggers in target markets. These individuals can share their ibusiness experience with other potential users. Organization opinion leaders include well-known Internet portals or other online content providers. If an ibusiness can integrate its services into the portal's offerings it can reach potential users for the ibusiness. Expedia and Monster, for example, were once input providers for the travel channel and the job channel of the local websites of the well-known portal MSN. This approach can reduce uncertainty in the adoption deci-

sion of potential users. Our case data indicates that opinion leaders and opinion leader-based partnerships are widely used by ibusiness firms as they expand to new foreign locations. Yet our evidence is not sufficient to determine the impact that these leaders have and whether using more leaders generates faster platform adoption. It appears that using opinion leaders can help ibusiness firms overcome issues of outsidership and become more embedded in the foreign market user network. Therefore we suggest that ibusiness firms that utilize opinion leaders in foreign markets will be more successful at attracting new adopters, leading to greater internationalization success.

Hypothesis 5: iBusiness firms making use of a greater number of foreign market opinion leaders will be more successful at stimulating foreign market user adoption compared with ibusiness firms using fewer opinion leaders.

To trigger and accelerate adoption, DIT further suggests the use of change agents (Eisenmann et al., 2006; Rogers, 2003). Change agents can be either internal, where they actively push foreign expansion as a member of a company's management team, or external, where they are persons from the outside such as industrial associations or firms hired by the business (Eroglu, 1992). We only found evidence of the use of external change agents in our case studies. Change agents are usually well trained or possess expert knowledge in a particular field that qualifies them to educate members of a social system about an innovation in order to motivate adoption. Although change agents play an important role for both individual and organization adoption, they may be particularly relevant for corporate users. Corporate users tend to show a higher level of uncertainty about potential new ibusiness firm platforms because these users are often the ones who pay for participating in the network, since private users are regarded to be more price sensitive (Eisenmann et al., 2006). For corporate users "stranding" in a small network would mean not being able to generate enough revenue to provide an adequate return on investment (the effort and price they pay for participation). Thus charging corporate users for participating in an ibusiness firm platform represents an adoption barrier, which change agents can help overcome.

The concept of change agents (normally internal change agents) is already known in the internationalization literature, which considers them to be a trigger that starts the foreign expansion process within a firm (Eroglu, 1992; Hollensen, 2009). In our model, change agents have a different, proactive task. Change agents use interpersonal communication channels to help an ibusiness firm to move from user-network outsider to insider. In this role they do not work internally to motivate a firm to expand overseas, rather change agents work externally to trigger user adoption in target markets. More specifically, the main targets in our context are foreign (target) market potential users of the ibusiness platform. Change in this context is understood as the final adoption of an ibusiness firm's offering by target market individuals and or firms. Since ibusiness firms face a LoO they can deploy local change agents in addition to opinion leaders as they attempt to expand abroad.

External change agents can accelerate user adoption and reduce user-network outsidership in new foreign markets by helping the foreign ibusiness firm overcome issues related to user uncertainty. As we suggested earlier, ibusiness firms may face liabilities of outsidership as they expand abroad because they have no direct ties to potential users in that market. This lack of ties creates a situation where potential users are worried about being "stranded" on a platform that does not have enough users to provide value and therefore do not adopt the platform (Katz & Shapiro, 1994; Schilling, 2003). Because an ibusiness firm normally begins foreign market entry as a user-network outsider, it needs to develop mechanisms for overcoming user perceptions of uncertainty about its future network size. Change agents can help ibusiness firms deal with issues of potential user uncertainty and move from a user-network outsider to an insider. First, when an ibusiness firm enters a market with no similar platforms, change agents can help inform "shadow users" about the availability of the platform in the country and the benefits of adopting. Through direct interaction between change agents and potential (shadow)users such targeted communication can be used to decrease user concerns. Second, when entering a market with a dominant platform, change agents help ibusiness firms overcome barriers created by both outsidership and switching costs. Well-trained change agents can show potential users how the focal ibusiness platform better meets their (changing) needs or better

integrates essential functions. Finally, in dominant markets and when entering developing markets change agents can provide an effective mechanism for targeting specific sub-user networks within a country. Although our case evidence cannot distinguish the impact of external change agents on user adoption, it appears that change agents can communicate more directly with sub-groups within a society and specifically address the needs and concerns of such subnetworks, reducing adoption uncertainty. Thus our theory and case evidence suggests that:

Hypothesis 6: iBusiness firms making use of a greater number of foreign market change agents will be more successful at stimulating foreign market user adoption compared with ibusiness firms using fewer change agents.

Limitations

Our study suffers from a number of limitations. First, we relied on case studies to help develop our new model of ibusiness firm internationalization. Although the number of cases was adequate for the descriptive purpose of this study and provided rich insights into the internationalization behavior of ibusiness firms, the number was too low to capture the relationship between the processes/resources each firm has and actual success of target market adoption. Future research can add to our knowledge of ibusiness firm internationalization by using quantitative methods and identifying relationships between processes, resources, and internationalization outcome measures like sales or adoption.

Furthermore, we restricted our sample to firms based in Germany. This ignores possible cultural or specific market-based factors that could influence the strategic actions of these firms. German ibusiness firms might behave differently from their North American or Asian counterparts. Future studies looking at ibusiness firms from other countries internationalizing to a wider variety of foreign markets can help us improve our understanding of the generalizability of our model.

In addition we had to rely on key informants and a review of external documents to collect data. Some of the firms did not even provide data

on sales or number of users, which had to be retrieved and assembled from external resources. Since data were based on retrospective reports of key informants on the internationalization efforts, these data may suffer from influences of *ex post* experiences or perspectives and from recall biases. We used triangulation techniques to try and alleviate these issues, however, this method cannot fully compensate for the problem of reconstruction biases. Future studies looking at the processes an ibusiness firm uses as it internationalizes would provide contemporary insights that do not suffer from such biases.

Although our article takes the first step in understanding the processes underlying ibusiness firm internationalization, future research might look at the use of different resources or processes in different international markets. It could also compare the ibusiness firm internationalization processes to other E-business companies. Finally researchers might want to explore the impact of other network members (suppliers, distributors, banks). While none of our case discussions found evidence of their use, past research notes these other network members are key figures in the internationalization process of product-based firms (Johanson & Mattsson, 1988). Looking at these issues would help clarify which DIT and network-based characteristics help ibusiness firms internationalize and highlight further the internationalization process differences between firms.

Conclusion

Our study makes an important contribution to the international business literature by extending internationalization process theory to a specific group of E-businesses; ibusiness firms. Building on diffusion of innovation (Rogers, 2003) and social network (Burt, 1992, 2004; Katz & Shapiro, 1994) perspectives we expanded internationalization process theory to encompass these new types of firms. Our study provides interesting new insights about how these firms approach internationalization. Because ibusiness firms generate value by providing the platform and organizing the input of users, as well as manage the cross-relationships of the various users, adoption of an ibusiness firm's platform is a critical determinant of internationalization success. But when expanding abroad

an ibusiness firm faces a significant LoO because it has no direct ties to users in the new market. We theorized and found, based on case study evidence, that ibusiness firms tend to focus internationalization efforts primarily on strategies to overcome liabilities of user-network outsider-ship. These firms take actions and use resources to manage the adoption of its business platform in a new foreign market in a way that helps it move from usernetwork outsider to insider. Based on this evidence we develop new theoretical insights and testable hypotheses that expand existing internationalization process theory. We identify several specific resources (network size and diversity) and processes (user incentives, opinion leaders, change agents, and Internet-based communication) that appear to influence the foreign market adoption process. Thus we help develop network-based internationalization process theory and improve our knowledge about how businesses establish operations abroad.

Note

1. The authors wish to thank the editor for making this point.

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Part IV

Practices and Entrepreneurial Internationalization



8

Small Firm Internationalisation Unveiled Through Phenomenography

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Introduction

Small firms play an important role in international business as they find new markets in which to grow and prosper (OECD, 2005). Various theories have been advanced to explain small firm internationalisation, such as economics-based perspectives (Brouthers, Brouthers, & Werner, 1996; Buckley & Chapman, 1997; Hollenstein, 2005), economic and business history approaches (Amatori & Jones, 2003; Colli & Rose, 2003; Jones,

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2000), the Uppsala and innovation-related perspectives (Bilkey & Tesar, 1977; Johanson & Vahlne, 1977, 1990; Reid, 1981, 1983), network explanations (Chetty & Blankenburg Holm, 2000; Coviello, 2006; Coviello & Munro, 1997; Johanson & Mattsson, 1988; Johanson & Vahlne, 2003, 2009; Loane & Bell, 2006), and more recently entrepreneurial explanations (Acedo & Jones, 2007; Andersson, 2000; Autio, 2003; Etemad, 2005; Jones & Coviello, 2005; Oviatt & McDougall, 1994). However, the unbundling of the actual activities and practices in the internationalisation processes of these firms has attracted little scholarly interest, and its enunciation in a formal explanation awaits attention. In particular, *how* owner-managers of small firms practise firm internationalisation has been overlooked, despite their being fundamental to any firm's international venturing, and once being the core issue occupying the attention of early Uppsala researchers (Carlson, 1974, 1975; Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975).

This study revisits this core issue by describing and explaining the internationalisation practices of owner-managers of small wineries. It asks the question: *How do owner-managers understand and practise firm internationalisation?* We review current theories, and report that existing explanations are either viewed in terms of the firm and its internationalisation process or explained through the characteristics of the owner-manager and their pre-acquired knowledge. Next, we contend that the practices of small firm internationalisation have been largely neglected because of undue emphasis on the rationalistic methodologies underlying existing investigatory approaches. We assert that these methodologies are underpinned by assumptions that de-contextualise small firm internationalisation and fit preconceived hypothetical understandings to the data (Punnett & Shenkar, 1996; Westwood, 2004) rather than allowing capture of the complexity and equivocal nature of the actual internationalisation practices of these owner-managers. We introduce and elaborate phenomenography as an interpretive qualitative methodology, outlining the method as we apply it. We then frame our research context as the "world of wine", where we report our findings that reveal a common internationalisation activity cycle, but with variation in owner-manager internationalisation practices determined by their understandings of firm internationalisation. Finally, we propose an understanding-based theory of small firm internationalisation, and show

how it extends existing theories of small firm internationalisation and opens new areas of enquiry.

Explaining Small Firm Internationalisation

Explanations of small firm internationalisation have converged into two themes: the characteristics of the owner-manager and their pre-acquired knowledge through entrepreneurship perspectives; and the firm and its internationalisation process through economics-based perspectives, innovation and network models, and the Uppsala internationalisation process perspective. Within the *characteristics* theme, entrepreneurial explanations view firm internationalisation as acts of identifying and exploiting international market opportunities, and have been applied particularly to explain early and rapid internationalisation, where the characteristics of the entrepreneur and/or the entrepreneurial firm are seen to be primary (Acedo & Jones, 2007; Andersson, 2000; Ibeh, 2003; Jones & Coviello, 2005; Knight & Cavusgil, 1996; Kuivalainen, Sundqvist, & Servais, 2007). Economic theory views firm internationalisation as a strategy to exploit the firm's monopolistic advantages in foreign markets, articulated as the market internalisation explanation (Buckley & Casson, 1976; Dunning, 1981; Hennart, 1982, 2009; Rugman, 1981), which draws upon transaction cost theory (Coase, 1937; Williamson, 1975). Economic and business history scholars have also sought to explain the international development of the MNE and foreign direct investment (Jones, 2005; Wilkins, 2004, 2005, 2009), and that of small firms, including the international development of family firms (Amatori & Jones, 2003; Colli & Rose, 2003, 2008). However, while we agree with Jones and Khanna (2006) that history is very relevant to international business development, the focus to date has not been on how these managers practise their firms' internationalisation.

Internationalisation as a managerial innovation is captured in the innovation models, where international development is perceived in terms of a stageslike adoption and diffusion process (Wickramasekara & Oczkowski, 2006). The owner-manager, their characteristics and actions such as gaining market access and managing foreign agents relationships,

while acknowledged (Reid, 1981, 1983), are of subsidiary interest and overlooked. Small firm internationalisation from the networks approach is viewed as firms leveraging on access to other firms' resources to establish and develop positions in relation to counterparts in foreign markets through international extension, international penetration and international integration (Chetty & Campbell-Hunt, 2003; Johanson & Mattsson, 1988; Loane & Bell, 2006; Sharma & Blomstermo, 2003; Yli-Renko, Autio, & Tontti, 2002).

Within the *process* theme, the traditional Uppsala internationalisation perspective conceptualises international expansion as an experiential knowledge development process (Carlson, 1974; Johanson & Vahlne, 1977), where internationalisation evolves as a series of incremental managerial decisions and actions to overcome the uncertainties of foreignness (Haiyang, Griffith, & Ru, 2006; Zaheer, 1995), as well as the liability of newness (Hannan & Freeman, 1984; Mudambi & Zahra, 2007; Zhou, Barnes, & Lu, 2010) in young firms. Although the formal Uppsala model focuses on process, the actions and activities of managers, while in part acknowledged, remain subordinate and neglected, despite being one of the core interests of the early Uppsala scholars (Carlson, 1974, 1975; Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). Johanson and Vahlne (2009) address some of these shortcomings in their recent business network model of firm internationalisation, where the obstacle to international development is not only the lack of market knowledge but also access to, and inclusiveness in, business relationships at home and in host countries in order to identify and exploit opportunities.

Straddling both the characteristics and internationalisation process themes, a promising extension drawing on insights that some firms can apply their mindsets established through experience and learning (Keisler & Sproull, 1982; March & Simon, 1958) in prior domestic business to early internationalisation commitment has been presented by Nadkarni and Perez (2007). They suggest that a diversity of domestic resource allocation experiences acquired through local stimuli that motivates widespread search for information and its internalisation (Liesch & Knight, 1999), and a correspondingly complex set of competitive conditions within the home market, can stimulate a mindset conducive to early

internationalisation commitment. The resulting experiential complexities implanted and embedded with these mindsets manifest in varied responses to stimuli, evidenced in variations in behaviours, with some firms remaining domestic and others committing to international expansion, pointing to development paths being neither universal nor deterministic. These authors therefore recognise explicitly the experiential complexities internalised within the mindsets of the decision-makers and subsequently revealed in the internationalisation activities likely to ensue from different commitment decisions (Nadkarni & Perez, 2007).

Although the many studies carried out in both the characteristics and in the process themes have continued to contribute to our understanding of small firm internationalisation, concerns remain about the possible inadequacy and partiality of existing explanations (Coviello & McAuley, 1999; Liesch et al., 2002) along with calls to refine (Axinn & Matthyssens, 2002; Johanson & Vahlne, 1990, 2003) and integrate current explanations (Bell, McNaughton, Young, & Crick, 2003; Coviello, 2006; Coviello & McAuley, 1999; Jones & Coviello, 2005). Current theories largely overlook the internationalisation practices of owner-managed small firms generally: economic and internationalisation process theories ignore the owner-manager and their practices, while entrepreneurial explanations focus on individual characteristics to the exclusion of their internationalisation practices.

Shifting Ground, Changing Lens

It is not readily apparent through a cursory review of these theories and methods why the dominant research perspectives struggle to advance our understanding of small firm internationalisation practice. However, explanations emerge through an examination of the meta-theoretical assumptions underlying them – that is, their ontological and epistemological assumptions. As Morgan and Smircich (1980: 491) remind us: “the choice and adequacy of a method embodies a variety of assumptions regarding the nature of knowledge and the methods through which that knowledge can be obtained, as well as a set of root assumptions about the nature of the phenomena being investigated”.

Adopting a meta-theoretical perspective, it becomes apparent that most international business researchers operate within the rationalistic research tradition (Jack, Calás, Nkomo, & Peltonen, 2008), which is underpinned by a dualist ontology and an objectivist epistemology (Bernstein, 1983; Rorty, 1979; Sandberg, 2005). A dualistic ontology stipulates that the person and the world are separate entities, externally related to each other, while an objectivistic epistemology assumes there to be an objective and knowable reality “out there” beyond the human mind (Sandberg, 1994). The dualistic ontology and objectivistic epistemology guides (and unfortunately also constrains) researchers working within rationalistic approaches to identify, conceptualise and describe firm internationalisation as two independent entities. On the one hand are the activities and processes of firm internationalisation, and on the other are the individuals involved in carrying out these activities. From this follows the conceptualisation of firm internationalisation as a set of relationships between a few variables that are stripped of confounding noise in an attempt to fit preconceived hypothetical understandings to the data (Punnett & Shenkar, 1996). Firm internationalisation becomes de-contextualised and reduced to ever smaller, partial elements and dimensions to accommodate parsimonious causal relationships that can be empirically tested (Sullivan, 1994; Westwood, 2004).

Given the limitations inherent in the assumptions underlying rationalistic approaches, to rely solely on this research tradition for advancing our understanding of the smaller firm (Cope, 2005; Grant & Perren, 2002; Perren & Monder, 2004), and in particular small firm internationalisation (Coviello & Jones, 2004; McGaughey, 2004), is constraining. Necessary is a shift in scientific approach to one *not underlined by* a dualistic ontology and an objectivistic epistemology that separates firm internationalisation into two discrete entities: the processes of firm internationalisation, and the individuals involved.

Moving Towards an Interpretive Research Tradition

The interpretive research tradition, guided by three core assumptions, offers an alternative meta-theoretical lens to conceptualise small firm

internationalisation. First is the phenomenological notion of life-world, which stipulates that individuals and their worlds are inextricably related through their lived experience of the world (Heidegger, 1962/1927; Husserl, 1970/1936; Merleau-Ponty, 1945/1962; Schutz, 1967). A human world is therefore never a world of itself; it is an experienced world, which cannot be described separate from us and our engagement with it. Second, human reality is socially constructed through ongoing actions, negotiations and agreements between individuals (Berger & Luckmann, 1966). Our understanding of reality is therefore formed through ongoing social interaction (Crotty, 1998). Third, human action and activities are based on our understanding of reality. That is, how people act is determined by how they understand different aspects of their reality (Sandberg & Targama, 2007).

Following the interpretive research tradition, what individual owner-managers do in relation to their internationalisation activities, and how they act with respect to timing, pace and patterns of internationalisation, are underpinned by how they *understand* firm internationalisation. This approach to explaining small firm internationalisation may provide a “bridge” to enhance our knowledge of this human and dynamically complex activity by linking individuals’ experiences of firm internationalisation with the processes of firm internationalisation. The interpretive research tradition not only provides a different lens through which to examine small firm internationalisation; it also presents a choice of methodologies and methods from which to investigate the meaning of firm internationalisation. These include ethnography (Geertz, 1973), ethnomethodology (Garfinkel, 1967), semiotics (Barley, 1983), grounded theory (Glaser & Strauss, 1967) and case study enquiry (Eisenhardt, 1989).

From an ethnographic perspective, the shared and learned meaning of patterns of values, behaviours and language of a cultural group is the focus of enquiry (Patton, 1990). Ethnomethodology, on the other hand, seeks to reveal meaning by investigating “how people produce social reality in and through interactive processes” (Flick, 1998: 19). Semiotics “analyzes the structures of meaning-producing events, both verbal and non-verbal” by focusing on how “our reality – words, gestures, myths – acquire meaning” (Mick, 1986: 197), and how language produces meaning in different contexts (Barley, 1983; Brannen, 2004). Inherent within

these methodologies is the view that members of similar cultural groups will act similarly based on their shared understanding of reality.

Grounded theory, too, investigates the phenomena of human experiences within a world of social interactions, with the aim of constructing theories from observations of reality within the context of people's everyday lives (Glaser & Strauss, 1967). Categories, properties and themes are constructed from the interpretation of the data to form a generalised substantive-level theory (Strauss & Corbin, 1990). In case study research, the researcher concentrates on the complexities connecting ordinary practice in natural settings (i.e., different cases, such as an organisation or event), where the case data are interpreted and given meaning via critical event or thematic analysis (Eisenhardt, 1989; Stake, 1994). As with grounded theory, case study research seeks the "general" rather than the "variation" in individual experiences by focusing on themes or events within and between cases.

Although interpretive methodologies rarely have been applied in international business research (Chapman, Gajewska-De Mattos, & Antoniou, 2004), McGaughey (2007), for example, combined ethnography with a narrative approach to provide new insight into owner-managed knowledgeintensive SMEs and firm internationalisation, and Brannen (2004) applied semiotics to investigate the Walt Disney Company's internationalisation in Japan and France. However, even though these interpretive methodologies, in different ways, would enable us to identify and describe how owner-managers of small firms understand and practise firm internationalisation, they must be partial, as they are not specifically designed to *capture possible variation* in the owner-managers' understandings of their firms' internationalisation. Being able to capture such variation is critical, as it has potential to explain why there are the idiosyncratic behaviours so often observed in small internationalising firms. Phenomenography provides such a methodology. In other words, while ethnography focuses on descriptions of a cultural phenomenon, and semiotics focuses on how meaning is constructed as an association between the signified and signifier, phenomenography gets at the variation in understandings of firm internationalisation.

Phenomenography: An Alternative Approach to International Business Research

Phenomenography was originally developed by a Swedish educational research group in the 1970s in a quest to better understand and explain why students who approached the same learning problem or opportunity arrived at different outcomes or solutions (Marton, 1981).

As an interpretive methodology, phenomenography is strongly rooted in phenomenological philosophy and its notion of life-world, stipulating that the world is never a world of itself, but is always an “understood” world (Sandberg, 1994; Uljens, 1992). Like other interpretive methodologies, phenomenography is purposively designed to capture how individuals and groups understand a specific aspect of reality (i.e., what it means to them), and how that understanding forms the basis for their actions. But unlike other interpretive methodologies, phenomenography is specifically designed to capture possible *variation* in the qualitatively different ways people understand one and the same aspect of reality, and how that understanding forms the basis for their practices (Marton, 1981, 1986; Marton & Booth, 1997; Marton & Pong, 2005; Sandberg, 2000).

“Understanding” in this context is not about comprehension – that is, “oh, I get it” or “I get the picture” as in normal parlance; rather, it is what something *means* to an individual. It is “people’s ways of experiencing or making sense of their world” (Sandberg, 2000: 12). Understandings are not genetically inherited by individuals; they are socially constructed and reconstructed through the person’s ongoing experiences and relationships with their world (Sandberg & Targama, 2007). It is within our understanding of reality that we decide courses of action, make decisions, make judgments and develop feelings and emotions (Deetz, 1992), as has been empirically demonstrated in numerous interpretive studies (for an overview, see Holt & Sandberg, 2011; Sandberg & Targama, 2007).

Phenomenography has been an established methodology in education for more than three decades (Dall’Alba & Hasselgren, 1996; Marton & Booth, 1997; Roberts, 2003; Wright, Murray, & Geale, 2007). It is used in other disciplines, such as the health sciences (Barnard, McCosker, & Gerber, 1999; Widäng, Fridlund, & Mårtensson, 2008) and information

literacy (Bruce, 1997), and increasingly in management areas such as workplace competence (Sandberg, 1994, 2000; Sandberg & Pinnington, 2009), corporate governance (Geale, 2008) and service quality (Schembri & Sandberg, 2002). For example, Sandberg (2000) applied phenomenography as an alternative to the prevalent rationalistic approaches for investigating professional competence in organisations. His results show that competence is not constituted by a set of attributes possessed, such as knowledge, skills and attitudes that people use in accomplishing a separate set of work activities, as assumed by the rationalistic approaches. Instead, it is the professionals' understanding of their work that mandates certain knowledge and skills as essential, and enables them to organise these into a distinctive competence in work performance. These findings have also been confirmed by more recent phenomenographic studies of workplace competence (e.g., Blomberg, 2004; Dall'Alba, 2004; Partington, Pellegrinelli, & Young, 2005).

While phenomenography is a well-established research method in a range of disciplines, it has not been applied in international business research. Applying a phenomenographic approach to investigate the internationalisation practices of owner-managed small firms calls for a systematic identification and description of the qualitatively different ways in which owner-managers understand firm internationalisation, and how these understandings translate into actions for internationalisation. We apply phenomenography here to improve our understanding of small firm internationalisation, examined empirically through analysing the internationalisation practices of owner-managed small wineries in Australia.

Method

Selecting the Empirical Context and Participants

The Australian wine industry is Australia's sixth-fastest-growing export sector and its 12th-largest export industry (IBIS World, 2008). Owner-managers in our sampling frame belong to Wine Export Networks (WENs) across metropolitan and regional Victoria, a state in Australia.

Members of these networks are small businesses associated to avail themselves of the Australian government's Export Marketing and Development Grants Scheme, and to maximise the international marketing benefits of the scheme. Excluded from selection were all small wineries deemed to be investment and/or family-owned wineries that fell beyond the definition of a small business – firms employing 20 persons or fewer (Australian Bureau of Statistics, 2000).

Owner-managers of these wineries were purposively selected in consultation with key industry players and the manager of several WENs, based on the criteria included within Table 8.1. A key sampling criterion was to obtain empirical material that captured the *greatest possible variation* in ways of understanding the practice of small firm internationalisation. Within the sample there are participants with a variety of international experiences and histories relating to international developments within and across the various WENs. While the sample

Table 8.1 Descriptive characteristics of the sample

<i>Number of participants</i>	<i>22 in total: 21 usable interviews (one unusable interview: poor sound quality)</i>
<i>Gender</i>	
Male	19
Female	3
<i>Age (years)</i>	
Mean	47
Range	28–65
<i>Business commencement to first international venture (years)</i>	
Mean	8.2
Range	1–19
<i>Length of experience in exporting and IB (years)</i>	
Mean	4.6
Range	1–16
<i>IB experience prior to exporting</i>	
Yes	6
No	15
<i>Business size (capacity: dozen 750 ml bottle cases)</i>	
Mean	53,232
Range	3880–387,920
Median	3880

size in qualitative enquiry is defined not by any fixed rules (Kvale, 1996) but by the purpose of the enquiry (Patton, 1990), the final selection of 22 owner-managers was guided by theoretical saturation (Glaser & Strauss, 1967). We expected saturation to occur between 15 and 25 interviews (Kvale, 1996), which is consistent with previous phenomenographic studies that suggest a sample of at least 20 is needed for maximum variation; after this few new data, concepts and/or themes are likely to emerge (Alexandersson in Sandberg, 2000).

Data Collection

Our primary data are in-depth interviews, supplemented by ongoing commentaries on the wine industry and observational visits to our sampled wineries. Extensive secondary data were used, including field notes, diaries and industry-based publications. Although phenomenographic interviews are similar to other interpretive interviews, in that they elicit individual respondent's meaning, phenomenographic interviews differ, in that they are specifically designed to capture the *variation* in how respondents understand aspects of their realities. The interviews therefore were not designed in the traditional question-answer sequence, but were dialogue-based to assist the respondents in providing rich and nuanced accounts of their understandings of international practices. Consequently, we constantly asked participants to elaborate their descriptions by providing concrete examples. Two principal questions were asked of each participant: "In your opinion, what is critical about doing business internationally?" and "What is difficult about doing business internationally?" These questions were elaborated and probed for deeper meaning with follow-up questions, such as: "What do you mean by that?" and "Can you provide examples of this?" Participants were interviewed initially, with each interview lasting 1–2 h. Follow-up interviews were subsequently conducted with each participant after they received copies of their transcript to verify their responses, and to seek clarification on issues that arose after the initial interview. Each of the 21 usable interviews was audio-taped and transcribed verbatim, producing 470 pages of single-spaced text (one interview could not be used because of excessive background noise).

Phenomenographic Analysis

The analysis of the transcripts was guided by the phenomenographic procedures offered by Marton and Booth (1997), Sandberg (2000, 2005) and Schembri and Sandberg (2002), in addition to being reflexive (Alvesson, 2003; Alvesson & Sköldberg, 1999). The analytic procedures consisted of an ongoing interpretive and iterative practice that alternated between *what* constitutes firm internationalisation practice (the sets of activities) and *how* owner-managers understand firm internationalisation (the variation in understandings of firm internationalisation). While we analytically considered these two aspects separately, in reality they form a relational whole. The analysis was divided into four phases: first was familiarisation, followed by focusing on *what*, then focusing on *how* and finally focusing on *what* and *how* concurrently.

In the familiarisation phase we sought to gain a general view of the various understandings, by reading each interview transcript several times. Initially we did not focus on specific statements, but rather we sought an idea of each participant's understanding of their firm internationalisation practices. At the end of our familiarisation phase we wrote a short summary of our initial interpretations of each participant's understanding of firm internationalisation, including notes that characterised how they conducted these activities. As a result, we sorted participants into groups based on the similarities and differences in their understanding of firm internationalisation.

In the second phase we focused specifically on *what* constituted firm internationalisation practice for these owner-managers, identifying the activities and tasks they undertook to deepen their firm's international involvement. We highlighted statements expressing the activities associated with their internationalisation practices on each transcript within each group, and then compared them between groups. After analysing these statements within and between groups, we categorised the statements into sets of constructs that encapsulated the various activities emerging from the transcripts. These were: assessing and knowing markets; prospecting and attracting foreign-based agent interest; assessing agent compatibility; and supporting and sustaining agent relationships

that included termination or failure of agent relationships. These four sets of constructs formed the basic structure of *what* constituted these owner-managers' internationalisation practices, which we later labelled as their internationalisation activity cycle.

In the third phase we focused on *how* owner-managers understood firm internationalisation. Our intent here was to move beyond the general connotations formed in phase one to systematically identify and articulate meanings of how owner-managers understand firm internationalisation. Each transcript was reviewed several times, focusing on the meaning of the highlighted statements in relation to the context of other statements and the transcript as a whole, rather than on the statements themselves or their frequency, as in content analysis. For example, one participant (c12d) expressed an understanding of firm internationalisation to be "confronting opportunities":

I am getting a lot more confident about it. I mean the trip for me was a fairly big thing in terms of [my] growth. It was reassuring to have a wealth of information and also having people to contact ... So I didn't feel daunted at all.

This short statement, by itself, suggests this understanding to be about overcoming a lack of familiarity of international markets and the need to know more about them to be reassured. Interestingly, all owner-managers in the study expressed similar views, but for this participant this statement means something more when the statement is referenced to its immediate context:

The hard thing basically, as I said before, was trying to sort out who were really telling the truth and who were keen on my product. So when you don't know the market, the people you are dealing with, you've got to work that out. So understanding your market, the guys who are selling your wine ... I suppose it is like that for every business, isn't it?

In relation to its immediate context, this statement indicates the meaning of "understanding your market" to be restricted by this participant's lack of knowledge and the uncertainties to him of how the market

operates. Throughout this transcript there are similarly confirming statements. We further tested and clarified the meaning of firm internationalisation expressed in the above statements by linking them with other statements within the transcript to reveal their internal associations. This participant subsequently signalled a deeper expression of how he understood firm internationalisation through the following comment:

The one factor for me is still the lack of knowledge ... a lack of knowledge for me really makes me hesitant to go into anything.

We interpreted all of these statements in relation to their immediate context to indicate the meaning of firm internationalisation to be: confronting opportunities to gain confidence in approaching foreign markets and attracting foreign-based agents. In our opinion, these sets of statements express similar meaning, although they describe different aspects of firm internationalisation.

This process was repeated independently for all participants. We then shifted our analysis from individual participants to comparing the understandings of firm internationalisation within and then between groups. There was some re-grouping as a result of this process. For example, initially we considered one participant (k2b) to be part of Understanding 3: *Firm internationalisation as portraying distinctiveness*. There were several references to “reputation” and “distinctiveness because of his smallness and his regionality”. However, after a deeper reflection it became apparent that price-type statements, such as “It does not matter how much they like you or your wine ... they’ve got to be able to sell it. I showed them my wines and I told them my price points”, in relation to other statements and in the context of the whole transcript, indicated that k2b’s meaning of firm internationalisation was more appropriately positioned within Understanding 2: *Firm internationalisation as competing on price*.

The final phase was conducted by simultaneously considering both *what* constitutes firm internationalisation and *how* firm internationalisation was understood – collapsing these components into one relational whole. We focused on the overall meaning of firm internationalisation in relation to the activities constituting firm internationalisation, and how the meaning was reflected in the identified activity groups. We then

cross-checked our interpretations by reading through transcripts conveying a particular understanding while superimposing transcripts expressing another understanding. In doing so, we challenged the different ways in which firm internationalisation was understood or could be understood by participants, to test the robustness and stability of each of the revealed understandings. We continued this process until we felt confident that we had faithful and plausible interpretations of firm internationalisation, and that each understanding remained stable. This cross-checking also led to more concise and connected descriptions of these understandings of firm internationalisation. Taking these together, we identified four qualitatively different understandings of firm internationalisation as relayed by our sample of owner-managers.

Soundness of Method

In line with the interpretive research tradition, four criteria are used to justify our knowledge claims: communicative, pragmatic (Kvale, 1989) and transgressive validity (Lather, 1993), and reliability as interpretive awareness (Sandberg, 2005). Following Sandberg (2005), establishing communicative validity means attempting to gain coherence between the researcher's interpretation and the data being examined. Communicative validity was achieved by:

- (1) building rapport with each participant prior to and during interviews to ensure they understood the purpose of the research;
- (2) asking only two open-ended questions together with follow-up questions, allowing each participant to fully describe their experiences and articulate their internationalisation activities; and
- (3) subjecting our interpretations to critical appraisal as a result of the reviewing process and presentation at conferences, as well as openly discussing our findings with participants.

Pragmatic validity refers to testing the knowledge produced in action (Kvale, 1989). We achieved pragmatic validity by:

- (1) using probing questions to go beyond the superficial and face-value statements, in order for each participant to demonstrate what their statements meant by giving actual examples of their practices; and
- (2) observing and noting their reactions and responses to our interpretation.

In some cases, misinterpretations of some of their statements provided a further opportunity for them to correct our interpretations and to elaborate on their explanations.

Transgressive validity draws attention to possible contradictions and differences, rather than coherence as stipulated by communicative and pragmatic validity (Sandberg, 2005). We tried to achieve transgressive validity by attempting to avoid taken-for-granted frameworks and assumptions via searching for differences and contradictions between each understanding of firm internationalisation, rather than looking for harmony and consensus in the accounts of the participants. Reliability as interpretive awareness concerns the researcher's procedures for achieving faithful interpretations of each participant's internationalisation experiences and actions (Sandberg, 2005). Reliability as interpretive awareness was achieved by:

- (1) taking a second-order perspective, and constantly checking whether our interpretations were grounded in the participant's experiences and understandings; and
- (2) throughout the data collection and in the initial phases of the analysis, treating all statements about the way each conducted their internationalisation practices as being equally important.

The World of Wine

Small internationalising wineries face a variety of influences that both constrain and provide international business opportunities. They all experience difficulties establishing themselves in foreign markets, as they are relatively unknown, and resources are limited. Consequently, they

rely heavily on the market-making services offered by government agencies. They also find it difficult to attract and to sustain distribution relationships with compatible foreign-based agents, because markets have “become much more competitive these days” (g10g), and they “are confronted with a lot less choice” (p15g) of agents “left who want to carry Australian wine” (c1p). The markets are both competitive and turbulent. Even after establishing relationships, these may be terminated because the agent has “been taken over” (d8l), abandoned through competitive obsolescence, or dissolved because their agency principal dies or is bankrupted. Owner-managers find this turbulence frustrating because of their geographic isolation, and their inability to have a personal presence in all markets to manage agent relationships. In addition, owner-managers constantly confront a multitude of cultural, institutional and regulatory arrangements imposed on the sale and distribution of alcoholic products by host-country governments. Given these contextual settings, how do these owner-managers actually internationalise their firms within the world of wine?

Four Understandings of the Internationalisation Practice of Owner-Managed Small Wineries

We identified four different ways in which owner-managers of small Australian wineries understand and practise firm internationalisation, and a set of specific activities (the internationalisation activity cycle) used in this internationalisation. Although the activities at a general level are common across the four understandings, the way they are carried out varies from one understanding to another. More specifically, we identified the following four understandings:

- (1) firm internationalisation as confronting opportunities;
- (2) firm internationalisation as competing on price;
- (3) firm internationalisation as portraying distinctiveness; and
- (4) firm internationalisation as storytelling.

These four understandings constitute the way owner-managers understand firm internationalisation, and they also give rise to variations in the ways owner-managers organise and practise their firm internationalisation. The variations in internationalisation practices are illustrated in Figure 8.1, and are elaborated below.

Understanding 1: Firm Internationalisation as Confronting Opportunities

For this group, firm internationalisation is about overcoming the unfamiliarity and uncertainties associated with prospective international markets. They practise internationalisation by seeking knowledge and being knowledgeable about the nuances within different international markets, which gives them confidence and reassurance to deepen their interna-

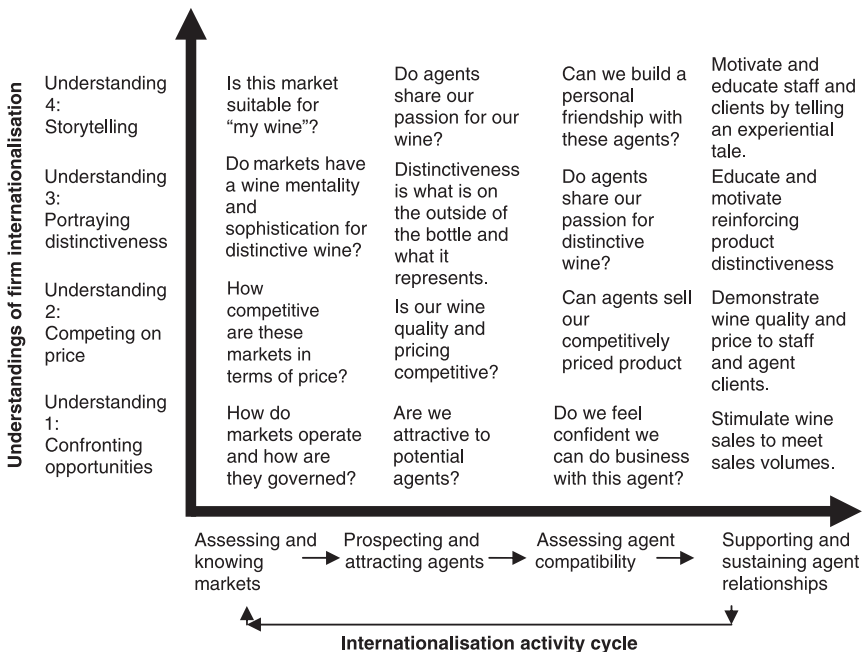


Figure 8.1 Understandings of owner-managed small wineries and the different meanings of internationalisation activities

tional development: “I am getting more confident about it. The trip overseas was a very big thing for me ... it made me grow up and realise it could work. It gives you a lot of confidence” (c12d). The complexity associated with international venturing is daunting: “[if] you get [things] wrong, you are wrong from the word go. And that’s the most difficult and probably the hardest. There are so many things you can do wrong” (s11b). This group needs to feel confident and prepared.

Looking more specifically at the different internationalisation activities, in *assessing and knowing markets*, these owner-managers seek knowledge of international markets by gathering broad-grained market knowledge of the institutional and regulatory arrangements that govern the operations within and across prospective markets:

You think let’s go overseas. It does not work that way. You’ve got to understand all that background information that you just intrinsically know as an Australian in dealing with the Australian marketplace. You have to go through and understand the entire business and regulatory model very carefully. (t17a)

For this group, it is about trying to understand the “business model” (t17f), which is determined largely by the institutional and regulatory arrangements within host markets. In doing so, they seek different types of knowledge: market-, institutional- and regulatory-based information about markets.

Perhaps of equal importance to acquiring and digesting information on international markets is the activity of *prospecting and attracting agent interest* – that is, finding foreign-based agents who might be interested in their wines, as they are uncertain their wines will be attractive to foreign-based agents: “We were very naïve, because we were producing gold medal wines here in Australia. There was an expectation there would be demand for that wine overseas; there is, but whether it is at a price we can afford” (r16f). In an attempt to overcome these uncertainties, they seek assistance from industry contacts to acquire valuable and difficult-to-get information, relying on export network members, consultants and recommendations by government agencies. However, these external agents also accelerate the process of finding and appointing suitable agents to

distribute their products: the consultant “knew this fellow and suggested he was the right guy to develop our business” (r20a); also “RDV eased the burden of making contact with potentially suitable agents” (r20a). “It is an elimination process” (r20a), one where the prospective agent needs to show the exporter “they like your product” (r20a) and the exporter has to have the capacity to meet their requirements.

For these owner-managers the activity of *assessing agent compatibility* means reducing the uncertainties about dealing with relatively unknown business associates and being confident that there is a “good” match between their businesses:

You need to make sure you know as much about them [agents] as you can ... getting their client list, visiting clients to find out their existing track record of payment and track record of pursuing market opportunities. (r18f)

It is also a matter of evaluating “whether they can do what they say, and you’ve got to verify and get information” (m18f). They view agency relationships as arm’s length exchange, but more: “it is a business relationship, but you have to have confidence in that person” (t17a).

In the activity of *supporting and sustaining agent relationships*, all members expressed the need to support and maintain foreign-based agent relationships, which at a minimum is being in the marketplace at least once or twice per year: “to consolidate and reinforce what we were trying to do” (r16f) “... doing some new releases and tastings and to provide [product] samples” (m18f) to encourage sales promotion. Nonetheless, supporting and maintaining agent relationships is understood and conducted in terms of business performance – stimulating wine sales to meet anticipated or established volume targets.

Understanding 2: Firm Internationalisation as Competing on Price

This group is preoccupied with the value and competitiveness of their product; they are price competitors. For this group, firm internationalisa-

tion means relying on their product and their price to be attractive to potential agents and their customers: “The one thing I have learnt in this industry is to be very aggressive in my pricing. I think that is number one” (a21o). They use price to compete and attract agent interest because they are relatively unknown in international markets: “You have to price products, if they are unknown, at a reasonable price” (p15g). It is the “constant and ongoing pursuit of foreign-based agents who want our product that represents value for money” (k3b).

In contrast to those in Understanding 1, these owner-managers do not see international markets as confronting and seek market knowledge for confidence building when *assessing and knowing markets*. Rather, they collect information about competitiveness, learning how rivalrous different markets are, and whether they are able to compete. They seem to understand and accept that the competitive structures and behaviours within markets are influenced largely by the regulatory and institutional arrangements: “You have to know it . but you would not consider those things a problem, would you?” (a21o). These participants seek fine-grained information about the suitability of their product, and piece together information on regulations, market structures and distribution arrangements to evaluate and assess their competitiveness and attractiveness to foreign-based agents.

This group, in contrast to Understanding 1, is more independent and proactive in *prospecting and attracting agent interest* by approaching potential agents directly, by “sending them [agents] details on most wines we supply and our ex-winery and FOB prices and wait for them to come back to us” (k2b). These independent activities, together with sponsored government services, referrals and trade show visits, not only provide these owner-managers with fine-grained market-based information, but also qualify prospective leads and provide opportunities for them to “show their wines and price points” (k3b). At these meetings, product and price come to the forefront as a means of attracting agent interest: “If I offer it [my wine] to somebody and give them a taste. You can tell straight away ... that they liked what they tasted ... And I always follow up with a price because I know my price is very good” (a21o).

For these participants, *assessing agent compatibility* is a frustrating process of finding and convincing the “right” agents to carry their competi-

tively priced product. Business and wine list compatibility are important in that it is as much about fit or matching: “if their portfolio fits yours, and their distribution fits yours and their projected sales volume fits . then you might [be compatible]” (k2b). However, owner-managers in this group emphasise the question: Can these agents sell our competitively priced product? “The guy who is going to sell your wine, his attitude will be more [like] what is the lowest price I could buy it for and how much will I make out of it” (k2b). The process of evaluating a match between the parties is similar across all understandings. Here, however, the initial criterion and question asked is: Is the product of good quality, and is it competitively priced? Furthermore, in *supporting and sustaining agent relationships*, this group sees market visits as a means to educate people who sell their product: “You spend time with the importer and their staff doing floor tastings or helping the guy behind the counter [and] with people who serve your wine . [however,] you’ve just got to keep pushing to stimulate sales” (d3t), to demonstrate the value of their product and to motivate the agent’s sales.

Understanding 3: Firm Internationalisation as Portraying Distinctiveness

Internationalisation, for this group, is expressed in terms of product distinctiveness. It means offering an appealing product package to attract agent interest, and to convince agents it is a package they can sell. Their practice of portraying distinctiveness represents more than the wine in the bottle, and its price, as expressed by those in Understanding 2. The value is portrayed by the product’s perceived distinctiveness and uniqueness, and distinctiveness for this group relates to wine styles and regionality. They emphasise “what is on the outside of the bottle, not what is in it” (w5w), and what this represents.

When it comes to the specific internationalisation activities, in *assessing and knowing markets*, this group is not concerned about feeling confident, nor is it only identifying whether its offering is price competitive. Their intent is assessing whether agents and consumers are looking for “niche products” (g13r) and asking the question: Are the markets “interested in

regional and boutique wines?” (a7c). This group recognises they are unable to compete in the mass markets against larger and better-known wine producers. They understand that, to be attractive both to foreign-based agents and to their customers, they need to be distinctive. They seek “markets that have a wine mentality” (g13r), and where there is “an increasing awareness of regional wines, the origins of wines and handcrafted wines” (a7c). They seek to identify discriminating markets with a preparedness to accept wines from different wine growing regions of the world.

In *prospecting and attracting agent interest*, the identification and selection of foreign-based agents, for participants in this understanding, is more deliberate and targeted compared with Understanding 2. They are unlikely to mail potential agents indiscriminately. Theirs is a story of uniqueness that is very difficult to relay using indirect methods and cold calling. They prefer to be referred, or directly introduced, to potential foreign-based agents. They seek to attract foreign-based agents with clients that share the same passion for novel wine styles and regionality: “We need to find distributors with a penchant for fine wines” (g13r) and “a belief in the brand and its potential” (g10g). In doing so, they emphasise their knowledge of their wine and their skills to demonstrate and persuade foreign buyers of distinctiveness.

Wine knowledge and the appreciation of distinctive wines are critical in terms of *assessing agent compatibility*. Agents need “to have a passion for our product” (c1p) and “the belief there is a real market for speciality products” (g13r). It is also about filling a gap in the agent’s portfolio: “She was looking for an Australian wine ... looking for boutique family wines that have a point of difference” (g13r). But it is more than that; owner-managers in this understanding need to feel reassured that “their prospective agents are prepared to sell their story” (p19f). “It is a package of personal appeal, wine knowledge and reputation, and it is mutual correspondence and time horizons” (a7c).

Activities *supporting and sustaining agent relationships* focus on educating and motivating agent staff and clients about the distinctiveness of their product. The story being told is that “our wines are different and distinctive; it is a regional story” (a7c). Furthermore, for some members of this understanding, supporting agents extends beyond scheduled in-market visitations to attend a store opening in Singapore, for example:

I was the only principal that went. That meant a lot to them [his distributor] but that is all I went for. It was really to support their investment, to support them in their endeavours in what they were doing. (c1p)

These actions suggest a deep-seated commitment to agents and to building relationships, one that goes beyond a detached agency relationship based on arm's length arrangements and contractual obligations, to one whereby owner-managers attach a greater personal psychological involvement to the relationship. Nevertheless, for this group, relationships with agents are still a means to an end, and that is to sell cases of wine: "You just have to drive your relationships ... it is a driven relationship ... I look at turnover in the marketplace ... that to me is the measure of success" (c1p).

Understanding 4: Firm Internationalisation as Storytelling

For these members, practising firm internationalisation means telling a personal experiential tale of the wine, the philosophy of the wine maker and how the wine is "made" for the agent and their customers. It is "a lot about personality . it is a package of personal appeal, wine knowledge, reputation and mutual correspondence" (f14p), and it is about wine needing to be "hand sold and explained ... providing an experience with the product" (d8l). They create memorable experiences to attract and engage prospective buyers of their wine. Their distinctiveness moves beyond the uniqueness of their wine to their passion and their personal embodiment in the wine.

The notion of a personal experiential tale of the wine that differentiates this group from Understanding 3 is exemplified by this remark: "They [prospective agents] asked us to change our wine . of course we said no . this is *our* wine" (emphasis added). They also match the suitability of their wines to those markets that appreciate their wine and its tale. They are unwilling to enter markets where their wine is not appreciated:

We were dissatisfied with ... England. We got this strong impression that they [distributors] sit back, send out catalogues, bring people in for organised tastings for all their products ... with tables covered with wine ... that does not suit our product ... our products need to be hand sold. (d8l)

Their wines are distinctive in “style and regionality”, somewhat similar to Understanding 3, but their wines are an extension of themselves.

The market-based information sought in *assessing and knowing markets* relates more to the suitability of their wine, and to having the confidence that their wine will be appreciated of itself, rather than their being confident about how the market operates. This group chooses markets based on their personal assessment of the suitability for “their wine” by assessing the degree of wine sophistication and appreciation within international wine markets. For instance, a participant commented about the UK market:

They are not used to cool climate wines . they are a market, as far as I can see for the classic Australian, South Australian hot climate big Shiraz, big Cabernet ... they are not so interested in more delicate styles [like ours]. (d8l)

In *prospecting and attracting agent interest*, these owner-managers value those agents who are able to demonstrate their appreciation and knowledge of wine, and possess a mutual enthusiasm for distinctive wine, similar to Understanding 3. Here it is the distinctiveness of their wines, their regionality and their reputation that is attractive to prospective foreign-based agents:

He was interested . in some of our products on the basis we were doing Italian varieties . he identified us as a point of difference . he sees us as innovators . with products that weren't going to cross the flow with other producers. (f14p)

However, in *assessing agent compatibility*, compatibility is judged more on personal qualities of the agent's principal and on whether the parties could become genuine friends:

You've got to be on friendly relationships . the American one is fantastic . they are special people . so warm to take you into their family, it is really great . even their representatives came and stayed with us here earlier this year. (p9l)

Business friendships are important to this group because of their personal involvement with their wine and its representation. These relationships are personal:

We as a family give a lot of support ... I think that is the key, and we are in a fortunate position. You know there is my wife, there is me, and there are my kids; they are all ambassadors of the brand [our wine]. (f14p)

Where these business relationships develop beyond prospecting, these friendships tend to reduce the instability of the agent relationships, and minimise the degree of follow-up outside their in-market visits.

The activities engaged in *supporting and sustaining agent relationships* are similar to other understandings. However, differentiating this group is their ability to go beyond what is in, and on the outside of, the bottle to telling their own personal tale about themselves and their wine to an appreciative audience that demands and values a personal tale: "It is a package of personal appeal ... it is providing an experience with the product [our wine]" (d8l), and the personal representation that accompanies this tale. "I never put my wine in a market that I could not go and visit. I just have to invest the extra money" (d8l).

A Hierarchy of Internationalisation Practices

These findings not only reveal variation; the four understandings are also hierarchically related to each other in terms of increasing comprehensiveness, where Understanding 1 is the least comprehensive and Understanding 4 the most comprehensive, incorporating all aspects of the lower-ordered understandings. Understanding 1, *confronting opportunities*, has a narrower approach to firm internationalisation and the seeking of fine-grained information of markets and agents. The level of involvement expands in Understanding 2, *competing on price*, by moving to a broader level of enquiry and action by focusing on their competitiveness, not necessarily that of "can we succeed?" In Understanding 3, *portraying distinctiveness*, the degree of complexity and sophistication is further extended, as the internationalisation activities are approached in a more

strategic manner in terms of markets and agents by attempting to differentiate through their distinctiveness, and attracting agents who value their distinctiveness. Finally, Understanding 4, *storytelling*, moves beyond distinctiveness to a personal embodiment and representation of their wine and of the relationships that they choose to establish.

Possible Sources of Variation in Internationalisation Practices

A further question of interest is the extent to which the four understandings of internationalisation practice are related to the characteristics of our sample. Each of these variables is related to the understanding of internationalisation practice in Table 8.2.

Gender and the different forms of internationalisation practices are not noticeably associated. Similarly, the extent to which prior interna-

Table 8.2 Understandings of internationalisation practice related to sample characteristics

	<i>Confronting opportunities</i>	<i>Competing on price</i>	<i>Portraying distinctiveness</i>	<i>Storytelling</i>
Number of owner-managers	6	4	8	3
<i>Gender</i>				
Male	5	3	8	2
Female	1	1	0	1
<i>Length of experience in IB (years)</i>				
Mean	2.3	6.25	5.6	4.3
Range	1–5	1–9	1–16	3–5
<i>Business start to first international venture (years)</i>				
Mean	9.5	6.3	6.7	8
Range	4–19	3–8	1–19	7–9
<i>Prior IB experience</i>				
Yes	1	2	3	0
No	5	2	5	3
<i>Business size (cases)</i>				
Mean	83,400	17,500	60,130	13,580
Range	3880–387,920	3880–38,790	7760–193,960	7760–19,400

tional experience influences the practices of internationalisation also appears weak. In most understandings, except for Understanding 2, the majority of the owner-managers had no prior international experience, and where owner-managers had prior experience they were represented across three of the four understandings. The relationship between the time lapse between business commencement and the first international venture, and the form of internationalisation practice, also appears weak. The mean values of Understandings 1 and 4 are comparable, as are those for Understandings 2 and 3. However, their internationalisation practices are quite disparate and distinctive. The ranges in relation to this characteristic also provide little evidence of association. Furthermore, there is no distinct link between firm size (cases produced) and the emergent understandings. Firm size, generally speaking, has not been a significant predictor of firm internationalisation (Calof, 1994).

There may be some association between international wine export experience and internationalisation practices, although this relationship is not strong. Owner-managers in Understanding 1 have fewer years of international business experience.

Interestingly, no members of Understanding 4 have international business experience prior to their current enterprise, yet they present the most comprehensive meaning of firm internationalisation. Overall, there appears to be little descriptive evidence that the understandings are influenced by sources other than the experiential undertakings of owner-managers. This conclusion was also confirmed after conducting logistic and ordinal regression analyses between the understandings and sample characteristics, where no evidence of association was found. The veracity of these results perhaps needs to be tempered, because of the small numbers involved.

Discussion

Towards an Understanding-Based Theory of Small Firm Internationalisation

In this paper we revisited a core issue in the early Uppsala studies, namely describing and explaining the internationalisation practices of

owner-managed small firms. We did that by applying phenomenography to address the question: How do owner-managers understand and practise firm internationalisation? Phenomenography enabled us not only to describe how owner-managers practise small firm internationalisation – what is actually being done, and how – but also to explain variations in their ways of practising small firm internationalisation. In particular, the findings generated by the phenomenographic approach demonstrate that owner-managed small firm internationalisation is not defined by the firm and its internationalisation process, as proposed by economic-based perspectives, the Uppsala and innovation-related models and network models, nor by the characteristics of the owner-manager and their pre-acquired knowledge, as suggested by the more recent entrepreneurial perspectives. Instead, the findings suggest that small firm internationalisation is defined by the way owner-managers understand firm internationalisation – what it means to them. We identified four different ways of understanding firm internationalisation, and thus four different ways of practising small firm internationalisation.

These findings offer a basis for a development of what can be called an *understanding-based theory* of small firm internationalisation. As depicted in Figure 8.1, the basis for an understanding-based theory of owner-managed small firm internationalisation is constituted by two dimensions: owner-manager understandings of firm internationalisation, and an internationalisation activity cycle. These dimensions are not independent, but are inextricably associated with each other in the sense that the internationalisation activity cycle is carried out differently in each specific understanding of small firm internationalisation. Hence an understanding-based theory does not present owner-managed small firm internationalisation as one universal process, and as thus demanding one generic explanation. Nor does it stipulate linearity or unidirectional international development trajectories. Rather, the owner-managed small firm internationalisation process revealed here is one of pluralism and multiplicity. An understanding-based theory therefore not only challenges existing theories of small firm internationalisation, but also offers a new way forward for investigating and explaining small firm internationalisation.

In order to further elaborate the basis for an understanding-based theory and its implications, we relate our findings to existing theories of small

firm internationalisation. Economic theory, articulated by market inter-nal-isation, is considered a general theory of firm international develop-ment (Buckley & Casson, 1976; Hennart, 1982, 2009; Rugman, 1982). Recently, Hennart (2009) critiqued this theory for being MNE-centric in relation to entry mode decision choices by recognising that international development is not exclusively home-country MNE determined, but is also dependent on interactions with local host-country firms and their bundles of complementary assets. An outcome of this bundling model is multiple trajectories for modal choices arising from the interplay between the MNE and owners of host-country firms, which offers an advance on the path-dependency and the statics of previous explanations. While the understanding-based theory confirms a similar conclusion, albeit from a very different perspective, it moves beyond economics-based theories in significant ways by showing that variation in the choice of modality and location/markets made by owner-managers is determined by their differ-ent understandings of firm internationalisation.

For example, the understanding-based theory provides insight into the different ways owner-managers interpret and assess the bundle of comple-mentary assets possessed by prospective host-country agents, that is, *assessing agent compatibility*. All owner-managers in our study evaluated the physical and financial assets of prospective business partners, as sug-gested by Hennart (2009). However, the unveiled understandings of small firm internationalisation determine the different ways in which these owner-managers acted in response to their assessment of comple-mentary assets possessed by agents abroad. For example, owner-managers' Understanding 1, *confronting opportunities*, focused on whether they felt confident they could do business with the agent, whereas owner-managers in Understanding 4, *storytelling*, assess whether they can build a personal friendship.

The understanding-based theory also progresses the descriptive accounts of innovation-related models in relation to managerial mind-sets and the level of awareness of their stage of export development, for example, by capturing these alternative conceptualisations of interna-tionalisation practices. These understandings of firm internationalisation identify the types of managerial innovation that are prevalent among owner-managers of small exporting firms, and how these innovations

might be put into practice. For owner-managers in Understanding 1, *confronting opportunities*, acquisition of market information and knowledge might be seen as a managerial innovation. So too, *portraying distinctiveness* and the activities associated with Understanding 3 might also be interpreted as managerial innovations.

Current entrepreneurial, economic and business history explanations emphasise the characteristics and traits, and pre-acquired knowledge of the entrepreneur, and hence that of the entrepreneurial firm. From our investigation, owner-manager practices of small Australian wineries reveal that they are opportunistic sellers searching for buyers in international markets, and so the understanding-based theory is consistent with, but also advances, the experiential model of firm internationalisation as expressed by Johanson and Vahlne (1977, 1990, 2009). More specifically, the understanding-based theory reveals a process of opportunity search and problem discovery (Hohenthal, Johanson, & Johanson, 2003; Johanson & Vahlne, 2009), with owner-managers attempting to locate and formalise exchange relationships through search activities (Casson, 1982, 1985). Activities such as contact making and information brokerage, communicating wants and specifying needs, price negotiation through to regulation and enforcement of contracts, all represent a logical process designed to move buyers and sellers more closely aligned from isolation to successful completion of exchange, thus overcoming obstacles to trade. These activities are captured and illustrated in the internationalisation activity cycle, but the emphasis applied to each, and the resultant behaviours, vary according to each of the individual owner-manager's understanding of firm internationalisation.

The understanding-based theory therefore moves beyond existing entrepreneurial, and economic and business history explanations by linking the owner-manager to their firm's internationalisation process; nonetheless, owner-manager understandings of firm internationalisation do embrace aspects of owner-manager traits and characteristics, and their mental maps and orientations, albeit from a phenomenographic perspective. More so, by associating each owner-manager with their internationalisation practices, the understanding-based theory reveals a more nuanced and comprehensive explanation of each firm's internationalisation process. An understanding-based theory captures and explains the

idiosyncrasies and opportunistic behaviours of these owner-managed small Australian wineries, because it preserves the variation between them as essential to the method applied.

Likewise, network theories focus on how firms penetrate, extend and integrate their network positions by investing in and building relationships with other international firms and organisations. Nevertheless, network research remains relatively static, and overlooks the behavioural and emotional aspects associated with how individuals and/or firms form relationships (Liesch et al., 2002; O'Donnell, Gilmore, Cummins, & Carson, 2001). The understanding-based theory overcomes these concerns by explaining what actually transpires as individual owner-managers attempt to penetrate, and extend their positions in, foreign-based networks (Johanson & Mattsson, 1988; Johanson & Vahlne, 2009). This theory also elaborates the process, and demonstrates the interaction of both organisational and social networks in terms of *assessing and knowing markets*, *prospecting and attracting agents* and *assessing agent compatibility*. It illustrates how owner-managers create *supporting and sustaining agent relationships*, and take advantage of those relationships to deepen their internationalisation, and to recover from agent failures or terminations, to re-establish themselves in foreign-based networks.

Further, the variations in internationalisation practices of owner-managers as they penetrate and extend their network positions are revealed. For example, members of Understanding 1, *confronting opportunities*, build and exploit relationships with government agencies and industry contacts to gain information on the regulatory and institutional arrangements in international markets. They also use these relationships for introductions to prospective foreign-based agents, and to assess their attractiveness to these prospective agents. The main purpose in developing an agent relationship in this understanding is to gain access to their marketing resources and client base to stimulate sales. In contrast, members of Understanding 4, *storytelling*, use their positions with the same government agencies and contact systems to gather information on the suitability of markets for their wine. They approach the activities of *assessing agent compatibility* and of *supporting and sustaining agent relationships* differently from Understanding 1, in that they will extend relationships only to agents who are as passionate about wine as they are, and with

whom they feel they can establish a personal friendship; they also set out to educate agency staff about “their” wine.

In general, the traditional Uppsala model has been criticised on three points:

- (1) It is deterministic.
- (2) It lacks explanatory power in relation to why and how the process begins.
- (3) There are concerns relating to causality and the direction of causality (Andersen, 1993).

The understanding-based theory posits that small firm internationalisation is not deterministic. It does not specify a universal development trajectory, as prescribed by the establishment chain in terms of deepening commitments to markets; nor do our findings specify the nature of a small firm’s geographic progression premised on psychic distance. Instead, the understanding-based theory suggests that there are a variety of paths, as proposed by Nadkarni and Perez (2007), with geographic progression being often *ad hoc* and opportunistic, not necessarily incremental, and certainly contingent upon the owner-manager’s understanding of internationalisation – its meaning as perceived by them. Hence, in contrast to the original Uppsala model and its recent variant (Johanson & Vahlne, 2009), with its conceptualisation of small firm internationalisation as a linear causality initiated by a commitment to internationalisation, the understanding-based theory suggests that the internationalisation process begins with the owner-manager’s understanding of internationalisation. It is the owner-manager’s specific understanding of firm internationalisation that determines their internationalisation practice and the activities undertaken. Our understanding-based theory suggests that firm internationalisation is characterised by an evolving recursivity rather than by a linear causality. There appears to be neither a beginning nor an end; there is an ongoing cycle of producing and reproducing their internationalisation realities and enacting them, based on their understanding of firm internationalisation (Giddens, 1984; Weick, 2001), as this is their work.

The Johanson and Vahlne (2009) revised business network internationalisation process model once again views markets as networks of relationships, as did the early IMP proponents (Hakansson, 1982; Johanson & Måttsson, 1985, 1988; Johanson, Mattsson, Sanden, & Vahlne, 1976), giving rise to “insidership” advantages and, conversely, to the “liability of outsidership”. However, although the revised business network internationalisation process model makes significant advances, the model still remains incomplete, as it does not accommodate the differences in meaning that individual owner-managers bring to their internationalisation activities. These differences in meanings – our four understandings of firm internationalisation – motivate variations in activities undertaken by different owner-managers operating within the same stages of the internationalisation activity cycle (Figure 8.1). For example, while the activity *assessing and knowing markets* is universally undertaken by our participants, it is interpreted differently by them within each of the four understandings reported here. Owner-managers in Understanding 1, *confronting opportunities*, interpret this activity in terms of how markets operate, and how they are governed. In Understanding 4, *storytelling*, owner-managers emphasise the suitability of markets for “their wine”. Similarly, the second activity, *prospecting and attracting agents*, for owner-managers in Understanding 1 means assurances that they are attractive to agents, while passion and enthusiasm for their wine is emphasised by those owner-managers in Understanding 4.

Hence, while individual owner-managers undertake the same set of activities ascribed by the internationalisation activity cycle, these owner-managers emphasise and practise different aspects of these same activities, because they have different understandings of internationalisation: they act and behave differently as they orchestrate their firms’ international development, albeit within this one internationalisation activity cycle. Consequently, owner-managed small firm internationalisation cannot be prescribed as deterministic. Rather, our findings posit there to be different international expansion trajectories for these firms, and therefore firm internationalisation for them is therefore a process of multiplicity, and not a universally applied process, as acknowledged by Nadkarni and Perez (2007), albeit in their more restricted framing of early internationalisation commitment.

Implications for Theory, Method and Further Research

Phenomenography and the understanding-based theory of small firm internationalisation developed here are not constrained by, or limited to, that of owner-managed small firms in the wine industry empirically investigated in this study. The understanding-based theory proposes that firm internationalisation practice is determined by the way owner-managers understand internationalisation. Therefore, at the generalised theoretical level, the proposition that understandings of firm internationalisation govern the way a firm organises and practises its international development is generic, and transferable across different organisational and industry contexts. However, we recognise that the variation in practices within and across different industries is empirical in nature, which warrants investigation: that is, variations in practices are context-bound. Such investigations would provide fertile ground for further enquiry, and beg an empirical question: What variations in internationalisation practices might exist across a range of industry contexts?

In addition to examining different industry contexts, the applicability of an understanding-based theory and phenomenography as a method raises further empirical questions regarding the variation of internationalisation practices within and across different country contexts. For example, to what extent do internationalisation practices vary among owner-managers of small internationalising wineries in Northern Italy, France, Chile and Argentina? Or, more generally, to what extent does country context within and across a range of industries, such as craft- and knowledge-based industries, impact on how owner-managers of small firms understand and practise firm internationalisation? These questions remain inviting of investigation.

Another question that arises is to what extent our proposed understanding-based theory can be applied to the internationalisation of larger firms, and in particular the MNE. In most small firms, as in this study, the owner-manager is primarily the sole individual engaged in conducting their firm's internationalisation activities (Crick & Chaudhry, 1997). However, it is likely that individual understandings of firm internationalisation can be extended beyond the owner-managed small firm

to the MNE by the way of collective and shared understandings of their top management team (Sandberg & Targama, 2007), or an internationalisation culture of the firm (Lamb & Liesch, 2002) that binds and coordinates top management actions as they develop their firms internationally over time (Alvesson, 1995).

There is encouragement within the broader management literature indicating the existence of collective and shared understandings (Cook & Yanow, 1993; Hutchin, 1993; Sandberg & Targama, 2007; Weick & Roberts, 1993). A collective and shared “understanding” is also inferred by Kogut and Zander (1992, 1993), as they suggest the firm is a social community where knowledge development and its transfer is couched in a social framework and viewed as a collective capability. So how, then, does a collective understanding arise within an MNE’s social community, and in particular the top management team? And how are the tensions and conflicts that arise from individual members’ different understandings of firm internationalisation overcome to form a coherent shared understanding? In addition, to what extent do different understandings across MNEs within the same industry explain the variation in their internationalisation conduct, that is, the way firms act and practise their international development? Idiosyncratic behaviour is not confined only to small firms; it is also observed in relation to large MNEs’ actions. For instance, MNEs competing in the motor industry across the globe vary in how they internationalise, and in the strategies they adopt. The same might be true across other industries in which MNEs compete.

Phenomenography as an autonomous methodology, or applied in conjunction with other methodologies such as ethnomethodology and semiotics, has the potential to identify the basis of a collective understanding among a firm’s management team, and how this shared understanding is constituted. These methodologies might assist in revealing how a shared understanding is produced through the tensions and actions of the top management team in larger corporations. They also have the ability to explain how such an understanding acquires its meaning and is conveyed through the use of language and signs within the organisation, and how these signs are recontextualised (Brannen, 2004) within MNE subsidiaries across multiple foreign locations. These approaches may also provide deeper insights into the variation of behaviours between MNEs in the

same industries as they compete in international markets, that is, the differential bases of firms' international strategy as expressed through their shared organisational understandings. We also believe phenomenography can be extended beyond firm internationalisation practices to investigate other areas within international business. One such area would be the capabilities and competences of MNEs, that is, to examine the nature and variation of higher organising principles raised by Kogut and Zander (1992, 1993), for example. Mode choice and mode switching as an area of research (Petersen & Welch, 2002; Petersen, Welch, & Welch, 2000; Welch, Benito, & Petersen, 2007) might also benefit from the application of alternative methodologies.

Conclusion

The understanding-based theory of owner-managed small firm internationalisation generated and proposed here through the use of phenomenography offers an innovative explanation of small firm internationalisation. It suggests that the variation in the internationalisation practices observed across firms within a similar cadre is determined by different understandings of firm internationalisation brought by those who orchestrate this internationalisation. Owner-managers in our sample attach different meanings to the activities performed within an internationalisation activity cycle, the common cycle through which these managers organise how they do their daily business of internationalising their firm. Therefore the variability and seemingly idiosyncratic nature of owner-managed small firm internationalisation is captured here as one of *multiplicity*, and not of universality, which would demand the one explanation.

The findings from this study challenge existing explanations of small firm internationalisation, not only for what they offer but, more importantly, for what they are *unable* to reveal owing to the rationalistic assumptions that underpin other more frequently applied methodologies. It is therefore unlikely that these novel insights would have been revealed without investigating small firm internationalisation by applying phenomenography as a methodology. Phenomenography allows researchers

to retain, unbundle and explore *variations* – variations in rational behaviours of managers involved in international development across different organisational, industry and country contexts. It is these variations in understandings that explain how owner-managers act and organise their internationalisation activities.

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Immigrant Remittances and the Venture Investment Environment of Developing Countries

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Introduction

In this paper, I develop and test aspects of a theoretical framework explaining whether and how developing-country immigrants significantly enhance the venture investment environment in their home countries through remittances of money and ideas. Research in international business (IB) and entrepreneurship has largely ignored this possibility, even though immigrants from many developing countries number in the

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A. R. Reuber (ed.), *International Entrepreneurship*, JIBS Special Collections,
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millions, and remit billions of US dollars annually. It may be that IB and entrepreneurship researchers assume this money is merely for home-country subsistence needs such as food, shelter, education and healthcare for family members. If so, then this assumption runs counter to recent speculation among development economists (e.g., Woodruff & Zenteno, 2007), public policy scholars (e.g., de Haas, 2005) and international organizations (e.g., IFAD, 2007) that immigrants abroad are increasingly important for financing new businesses in their home countries. Immigrant ideas developed abroad may also constitute “social” remittances guiding the use of venture capital to fund, found and grow new firms internationally (Levitt, 1998; Williams, 2007). If this is true, then developing-country immigrants could be vital players in entrepreneurship and broader economic internationalization trends. IB and entrepreneurship researchers should contribute theoretical insights and investigate empirical evidence related to immigrants and the role their transnational money and ideas may play in enhancing the venture investment environment of developing countries.

In response, I contribute a theoretical framework to explain developing-country immigrants, remittances and home-country venture investment based on transaction cost economics (TCE) (Coase, 1937; Henisz, 2000; Williamson, 1985) and social knowledge (Kogut & Zander, 1993; Polanyi, 1966) logic. Potential investors in developing countries face substantial transaction costs when moving money and ideas across borders. TCE scholars from Coase (1937) to Williamson (1985) and Henisz (2000) have pointed out that these costs relate to coordination—that is, the costs of negotiating, implementing, overseeing and, in the breach, coercing transfers through formal legal and regulatory enforcement mechanisms. Guler and Guillén (2010) provide recent evidence that such transaction costs deter venture investment activity in many developing countries with less-established formal institutions to coordinate the transfer of money and ideas.

But their findings might not apply with substantial weight to developing-country immigrants mulling over venture investment opportunities back home. Webb, Tihanyi, Ireland, and Sirmon (2009) recently highlighted the potential of informal relationships, often grounded in shared membership in a geographic community, or in a family, ethnic or

cultural group I describe collectively as a *clan* (Ouchi, 1980). Informal clan and community arrangements can complement if not completely replace the formal arrangements that investors typically rely on to safeguard the prudent transfer and use of scarce venture capital and ideas, and the formal arrangements that they rely on to inform and guide business partners about the effective use of scarce venture capital and ideas. I build on this logic to propose that informal, cross-country relationships can serve as bases for immigrants to identify business opportunities and business partners back home, and transfer venture capital and ideas through remittances where other investors with more “conventional” venture capital might not.

My TCE- and social-knowledge-based framework motivates five hypotheses about the direct and indirect positive impact of developing-country immigrant remittances on new-venture funding, founding and growth through internationalization in their home countries. My empirical investigation of these hypotheses also contributes to IB and entrepreneurship research with the first broad sample statistical evidence assessing remittance effects on home-country venture investing trends.

Multivariate panel analyses of data on remittances to 61 developing countries from 2002 to 2007 yield substantial evidentiary support for all hypotheses about the direct impact of remittances on home-country venture investment indicators. I find that remittances are positively related to greater general access to capital, as well as more narrowly defined venture capital access in immigrants’ home countries. Remittances are also positively related to increased home-country import and export activity, a trend I describe as *economic internationalization*. I find that remittances are also positively related to rates of new business creation in immigrants’ home countries, but this relationship is more nuanced. They increase the new business start-up rate in a developing country, but only when that same developing country’s government does not constitute too large a share of the national economy and perhaps “crowd out” private economic players and activities related to remittances. These direct relationships are more substantial in some of the world’s least developed countries, thus suggesting an especially important role for remittances in sparking economic growth led by entrepreneurs in the private sector.

I also document significant moderator effects, at times magnifying and at other times diminishing the impact of remittances on the home-country venture investment environment. I predict that individual immigrant educational attainment will magnify the venture investment impact of remittances, but find just the opposite. Positive remittance effects on venture capital access diminish among better-educated immigrants. Similarly, I expect that remittances from immigrants living in more concentrated communities abroad will have a stronger impact on the home-country venture investment environment. Venture capital access effects are magnified but business start-up and trade effects are diminished for remittances from immigrants living in more concentrated communities abroad. These results document support for key aspects of my theoretical framework, but also suggest the need for additional theoretical refinements and empirical analyses about whether and how immigrants of diverse backgrounds materially affect the home-country venture investment environment. These results and their implications compel future research by IB and entrepreneurship scholars, who should play a greater role in debates about whether and how immigrants can help build more open, vibrant economies in the developing world.

Background Concepts and Literature

Background Concepts, Practices and Trends

Additional explanation of immigrant and remittance concepts, practices and trends provides helpful context for my theoretical framework and follow-on empirical investigation. Immigrants coming to a country, emigrants leaving a country and migrants in transit between countries share in common the experience of living outside their country of origin, most often defined by their country of birth. They may be legal or illegal residents, temporary workers, displaced persons or hold some other status in the host country, short of citizen by birth. For the purposes of this study I define individuals in any of these non-citizen host-country classifications as “immigrants”. In the 2000s this group grew to more than 200 million, which would make immigrants the fifth largest “country” in the world (United Nations, [2008](#)).

Remittances are commonly defined as money transfers by immigrants in host countries to individuals in their home countries. Remittances comprise three components: workers' remittances, compensation of employees, and migrant transfers.¹ Remittances flow from individuals in host countries to home countries through either standard commercial or alternative conduits. Standard commercial conduits include money transfer organizations such as Western Union, banks and post offices (IFAD, 2009). There are alternative conduits, as simple as individuals carrying cash across borders, as well as more sophisticated debt-transfer practices based on *hawala* principles in classical Islamic law (Qorchi, Munzele-Maimbo, & Wilson, 2003). Such alternative conduits are important, although better monitoring of remittance flows for taxation and anti-terrorism purposes has increased the percentage flowing through standard commercial conduits since 2001 to approximately 60% of estimated total remittances in 2009 (Moneygram, 2010).

By 2007 remittances exceeded \$300 billion, triple an estimated \$100 billion total in 2000. During those same years remittances became the second largest type of foreign capital flow to developing countries after foreign direct investment (FDI). In Mexico, India and China, annual recorded remittances in the mid-2000s exceeded \$20 billion. In other less-developed countries the absolute value of annual recorded remittances is generally lower, but their relative importance could be even greater. For example, their value to Moldova in the mid-2000s was equal to more than 30% of its GDP (Moneygram, 2010; United Nations, 2008).

At least three factors favor remittances as a source of venture investment in the developing world. First, compared with FDI or portfolio flows, remittances are a more stable and reliable source of potential capital (Ratha, 2003). After a slight downturn in 2008, remittances increased to \$316 billion in 2009, and are estimated to reach \$335 billion by the end of 2010 (Moneygram, 2010). Second, remittances tend to be lower-value, person-to-person (not person-to-firm or person-to-government) transfers suited well to smaller, lower-technology business start-ups in the developing world. Third, immigrant remittances tend to carry with them a substantial "social" component. Levitt (1998) points out that remittances include new ideas and underlying relationships with people, who may have suggested a new business initiative to an immigrant in his or

her host country, or who may have helped get the initiative up and running in his or her home country. Indeed, immigrants may have a comparative advantage at transferring such money and ideas across borders compared with other potential investors. As nationals who have “made it” abroad, they have greater legitimacy with peers in their home countries. Their proposals are likely to be perceived as “new” and worthy of closer review (Williams, 2007). Thus remittances are more stable flows, geared to smaller-scale investments and benefitting from a substantial social component that includes internationally tested ideas and relationships for investment guidance.²

Given this profile of immigrants, and given the sheer size, it might seem self-evident to conclude that immigrant money and ideas are significant and substantial inputs in the funding, founding and growth of new businesses back home. Yet researchers often assume, like Brown (2006: 61), that “as a rule, the predominant share of remittances goes to the immediate consumption of foodstuffs and basic services, with health care expenditure often featuring prominently”.

Again, at least three factors help explain why business-related remittances in developing countries have attracted little attention in previous research. First, the evidentiary basis for understanding remittance uses rests substantially on the reported experience of US-based immigrants in the 1990s.³ The composition of remittance uses might be different outside the North American experience, particularly the composition of uses for increasingly large remittance flows between developing countries—so-called “South–South” remittances.⁴ Second, this survey evidence from the 1990s precedes substantial growth in remittances since 2000.⁵ This trend could also signal a change in the composition of remittance uses, so that the 2000s could see that “a significant portion is also available for savings, credit mobilization and other forms of investment” (IFAD, 2007). Third, research attention on migration has focused more often on the moral, legal and political issues affecting developing-country immigrants (e.g., Trachtman, 2009). Tracking business-related activities among these individuals is often a second-order issue for such researchers and policymakers.

Relevant Literature on Immigrants, Remittances and Home-Country Venture Investment

This research and policy context might explain why IB and related entrepreneurship scholars have not to date paid greater attention to remittances as a source of venture capital, new business ideas and increased economic internationalization for developing economies. Guler and Guillén's (2010) recent study on the internationalization of US venture capital firms is illustrative. They test several hypotheses regarding institutional determinants affecting the likelihood that US venture capital firms with marquee names such as Warburg Pincus will enter a new country. That likelihood decreases in countries with weaker policy stability, legal protection (for investors) and financial liquidity. One might easily conclude that new-venture funding, founding and growth depends substantially on the decisions of established investment firms (not individuals) that will be attracted to more (not less) developed countries with stronger (not weaker) formal political, legal and financial institutions.

But perhaps it is more than just prominent venture capital firms playing important roles in guiding capital. From 1990 to 2003 it is estimated that approximately 55 million Chinese immigrants remitted close to \$60 billion to Taiwan and mainland China. One beneficiary of these remittances was the Hsinchu (or Hsinchu) Science-Based Industrial Park in Taiwan, where both venture firms and individuals helped fund computer and related information technology firms, and where 40% of these ventures were established by Chinese immigrants (Ghosh, 2006; Saxenian & Hsu, 2001). The entrepreneurial activities of Indian nationals living abroad almost certainly contributed substantially to the growth and internationalization of the Indian software industry, which grew 40% in the 1990s (Kuznetsov & Sabel, 2006). These examples suggest the importance of transnational technical communities for directing venture finance and ideas from host to home countries (Madhavan & Iriyama, 2009).

But, in other developing countries, transnational entrepreneurs may lack technical training or higher education, yet still serve the same purpose of transferring valuable capital and ideas. Turkish nationals moving to and from Germany since the 1960s account for a substantial increase

in new business start-ups, economic growth and exports in regions surrounding the ancient city of Çorum on the Black Sea. These nationals exhibit no distinctive educational or technical training advantages. Rather, their success appears to follow from how they learn basic business skills abroad and bring them back with the help of family and community ties (Dişbudak, 2004). International linkages based on family, ethnicity, culture and community may matter as much as (or more than) educational advantages.

Single-country statistical studies in the 2000s convey a similar notion. Woodruff and Zenteno (2007) report that remittances from Mexican immigrants in the US since the 1990s account for 20–33% of invested capital in small firms from their home Mexican states. Increasing remittance shares of overall invested capital are also associated with higher firm sales and profits, suggesting that remittances represent “smart” venture capital. A follow-on study by Demirgüç-Kunt, López Córdova, Martínez Pería, and Woodruff (2011) finds that remittances to Mexico have also increased the depth and breadth of the Mexican banking system.⁶ Dustmann and Kirkchamp (2002) report that approximately half of all immigrants returning to Turkey from Germany in the 1990s started new businesses within four years of their return. McCormick and Wahba (2003) find that proceeds from return migrants to Egypt promote investment in small household enterprises, particularly in urban areas. Kilic, Carletto, Davis, and Zezza (2007) correlate the length of stay abroad among Albanian migrant workers in the 1990s with a greater likelihood of starting a household enterprise. That likelihood is greater as the stay abroad increases in a country with a larger economy, presumably because the enterprise they start back home is connected to a larger market abroad.

This brief review of relevant concepts and literature paints an interesting background for my study. The sheer size of remittances suggests their importance for study by IB and entrepreneurship scholars. There is mounting case study and singlecountry statistical evidence suggesting the significance and practical substantiality of remittances for new business funding, founding and growth through internationalization. Yet there has been little, if any, IB or entrepreneurship research touching on remittances, and none addressing the possibility that remittances might enhance capital availability, new business starts and other indicators of

the home-country venture investment environment. Given this background, it is timely to develop broad sample cross-country evidence grounded in a theoretical framework familiar to IB and entrepreneurship scholars.

Theory and Hypotheses

Theoretical Grounding and Key Assumptions

TCE and social knowledge theories motivate my framework for understanding whether and how developing-country immigrant remittances enhance the home-country venture investment environment. My framework rests on two assumptions. First, and consistent with TCE theory (Coase, 1937; Henisz, 2000; Williamson, 1985), I assume that capital and knowledge flows to developing countries from “standard” sources such as MNEs, including venture firms, are stifled by high international communication and coordination costs. These high costs are tied to the less-established and fluid nature of formal legal, political and financial institutions and practices in developing countries. Second, and consistent with social knowledge theory (Kogut & Zander, 1993, 1996; Polanyi, 1966), I assume that immigrants have access to informal relationships, principally tied to clan and community memberships that span host and home countries. These relationships compensate for formal institutional weaknesses, and permit transactions involving remittances for venture investment to go forward. I elaborate on theoretical bases for these two assumptions, on the resulting theoretical framework they motivate, and on specific predictions that the framework generates for empirical testing.

Developing TCE Aspects of the Theoretical Framework

Entrepreneurial activities tend to foster prosperity and growth in developing- and developed-country contexts. As Shane and Venkataraman (2000) note, these practices introduce new products, processes and ways of organizing businesses. They open up new markets, new supply chains

and new labor sources. They lead to economic growth through the private sector rather than through state planning and policy interventions. In the more resource-constrained developing countries of the 2000s, the desirability of entrepreneur-led economic growth is magnified. Yet for reasons familiar to IB and international entrepreneurship scholars, developing countries garner but a fraction of venture funding, founding and growth worldwide. Compared with most industrialized democracies, developing countries have fewer entrepreneurs willing and able to exploit new business opportunities. This could follow from emigration of more ambitious, creative, educated nationals—the so-called “brain drain” (Adams, 2003). Even when there are new business opportunities, and motivated individuals willing to exploit the opportunities, venture capital is scarce, credit markets are turbulent, and start-up as well as growth funding is more challenging to obtain on reasonable terms—if any (Paulson & Townsend, 2004). At a higher institutional level, basic assumptions about the nature of contracts, property rights and public regulation of businesses are more vulnerable to being overturned in developing countries (Hoskisson, Eden, & Wright, 2000).

These and other detriments to the venture-investing environment of developing countries are summarized well in TCE terms. Costs associated with coordinating the transfer of venture funds and ideas to developing countries deter many potential venture investors, particularly foreign-domiciled venture investors. From a Coasean (1937) TCE perspective, the benefits of investing in many developing countries may not exceed the high costs of negotiating, implementing, overseeing and, in the breach, coercing through legal enforcement terms of a given new business investment. From a Williamsonian (1985) TCE perspective, the greater prospect of opportunistic contractual breach and costly contractual renegotiation with developing-country entrepreneurs deters many potential venture investors. Henisz (2000) adds to this TCE perspective with insight into the more volatile investment environment that developing countries present. Developing countries with fewer policymaking “veto points” also see more frequent changes in public investment policies over time. Policy instability about the rules of the investment game deters investment, particularly new business investment (Guler & Guillén, 2010).

Developing Social Knowledge Aspects of the Theoretical Framework

In this context, it is fair to ask why remitting immigrants might behave differently from so many others reluctant to fund, found and guide the growth of new firms in developing countries. The summary of background literature above has already noted case studies and single-country statistical analyses documenting the quantity and quality of venture investing by immigrants from Albania (Kilic et al., 2007), China (Ghosh, 2006), Egypt (McCormick & Wahba, 2003), India (Kuznetsov & Sabel, 2006), Mexico (Demirgüç-Kunt, López Córdova, Martínez Pería & Woodruff, 2011; Woodruff & Zenteno, 2007), and Turkey (Dişbudak, 2004; Dustmann & Kirkcham, 2002). One recurring theme in this research is immigrant interest in going abroad to accrue business capital, experience and ideas (e.g., Dustmann & Kirkcham, 2002). Another recurring theme is immigrant advantage in venture-investing activities compared with others. Education and (business) experience lead to more new venture discovery back home, while personal wealth makes those new ventures easier to fund (e.g., Ghosh, 2006). But those advantages are more exploitable because of dyadic host–home-country relationships grounded in common family, ethnicity, culture and/or community membership (e.g., Dişbudak, 2004). Together, these themes suggest that immigrants may be a special case of Kirzner's (1997) entrepreneurs with superior (to other investor types) means to discover and exploit new business opportunities back home.

That special case may be related to the concept of transnational entrepreneurs. Since at least the 1990s, scholars explaining the location and growth of industry clusters around the world have noted the important role of immigrants as technological and business innovators. Saxenian (1999, 2002) highlighted the important role of immigrants in building computer industry clusters in the US and Greater China. Portes, Haller, and Guarnizo (2002: 287) may have been first to use the term and describe transnational entrepreneurs as “selfemployed immigrants whose business activities require frequent travel abroad and who depend for the success of their firms on their contacts and associates in another country,

primarily their country of origin". Drori, Honig, and Wright (2009: 1001–1002) elaborate on the concept from a resource-based perspective. The ability and willingness of transnational entrepreneurs to move frequently between host and home countries lets them “creatively, dynamically and logistically maximize their resources base” of valuable business ideas and contacts.

Such transnational entrepreneurs almost certainly possess knowledge helpful in overcoming barriers to funding, founding and promoting the growth of new businesses through remittances. Their valuable cross-country relationships could follow from some of the network factors that Madhavan and Iriyama (2009) cite in defining and measuring the strength of transnational technical communities with advanced education, professional or technical training. Yet such elites constitute only a fraction of all developing-country immigrants, and their remittances constitute but a fraction of total flows. Any theoretical framework to explain how and why immigrant remittances may be better positioned for venture investment in developing countries requires grounding in social knowledge elements with a broader application.

The clan concept helps broaden that application. The immigrant experience may engender clan-like relationships distinguished by norms of reciprocity, social solidarity, trust, mutual support and loyalty. If so, then clans become governance mechanisms where “common values and beliefs provide the harmony of interests that erase the possibility of opportunistic behavior” (Ouchi, 1980: 138). When opportunistic behavior decreases, so too do the transaction costs of negotiating and overseeing the transfer of money and ideas for funding, founding and growing new firms back home. Ahlstrom and Bruton (2006) posit a similar notion from a network perspective. According to them, entrepreneurs operating in countries with less-established formal institutions build personal networks with more trustworthy exchange partners. McMillan and Woodruff (1999) explain the allocation of credit in Vietnam during the 1990s in similar terms. In the absence of enforceable contracts, lenders use informal relationships based on kinship to decide whether and how much credit to extend a business.

Informal relationships facilitating entrepreneurial flows can follow not only from clan but also from geographic community links. Webb et al. (2009) develop a comprehensive theoretical framework for understanding new business funding, founding and growth based on informal, perhaps at times even illegal, but still legitimate community practices. Their framework explains, for instance, the creation and growth of ethnic “business enclaves” where lending and investment are often initiated and enforced in the breach without recourse to contracts and courts. Threats of reputational loss, community ostracism, even coercion may be legitimate alternative means for ensuring the flow of new business capital and ideas in such communities (Portes & Sensenbrenner, 1993).⁷

With notions of clan and community linking immigrants, I can now explain the flow of entrepreneurial money and ideas from host to home countries for a range of immigrants, not just immigrant elites. That flow follows from immigrant experience, skill development and insight gained in the host country, generating capital and ideas transferred to the home country through informal relationships related to immigrant clan and community membership. As part of this flow, immigrants are able to identify suitable business partners to fund, found and grow new ventures back home. Shared clan and community membership subjects these partners to informal oversight, decreasing the likelihood of any opportunistic misuse of immigrant funds and ideas. Even if TCE assumptions of opportunism are changed—treat local partners as completely trustworthy—shared clan and community membership still increases the likelihood of effective transmission of knowledge from the immigrant, particularly tacit knowledge based on immigrant experience and insight. This view is analogous to Kogut and Zander’s (1993) knowledge theory of the MNC, which they explain as a response to difficulties in the cross-country articulation and transfer of complex, often tacit, knowledge. Just as shared corporate membership within the MNC enhances cross-country understanding between individuals, so shared clan and community membership enhances cross-country understanding about new venture ideas immigrants and business partners implement. These cross-country relationships become valuable resources that immigrants maintain through periodic transnational communication and travel.

Derived Hypotheses for Testing

My theoretical framework implies several testable predictions about the attributes of developing-country immigrants, their informal cross-country relationships, their interest in and opportunity to use remittances for entrepreneurial purposes, and the prospective impact of their remittances on the home-country venture investment environment. I leave many such predictions to future studies, but focus in this study on five specific predictions related to the direct and indirect impact of remittances on venture investment funding, founding and growth through internationalization.

I turn first to three hypotheses about the direct effects of immigrant remittances on the venture investment environment in developing countries. Consistent with my framework, I first predict that remittances from developing-country immigrants are “smart” money, capable of enhancing the quantity and quality of scarce venture capital in their home countries. This prediction competes with a plausible null hypothesis that remittances in developing countries are dominated by non-business subsistence priorities. An alternative null hypothesis could follow from home-country intermediaries, such as developing-country governments, reducing intended entrepreneurial flows to insignificant levels through taxation or other policy diversion. Hypothesis 1 rejects these alternatives in predicting that:

Hypothesis 1: There is a positive relationship between immigrant remittances and venture capital availability in developing countries.

My framework also suggests that remittances represent more than just money for venture investing. They also include actionable ideas for founding new businesses. Again, this prediction competes with plausible null hypotheses about the subsistence rather than the entrepreneurial nature of remittances, and with the neutralizing effects of government intermediaries. Yet another competing null hypothesis admits the impact of remittances on venture capital funding but not on founding. It could be that the cross-country clan- and community-based relationships I

have articulated limit immigrant participation to that of a passive investor or lender rather than a material player in founding new businesses. Alternatively, state policy could encourage the accumulation of venture funds to create fewer but larger enterprises, perhaps with state involvement as a co-investor. Such a scenario could see increasing access to capital without substantial increase in rates of new business starts. Hypothesis 2 rejects these alternatives in predicting that:

Hypothesis 2: There is a positive relationship between immigrant remittances and new business founding rates in developing countries.

My framework also suggests that remittances do more than connect immigrants to their home countries as venture funders and founders. These connections engender a broader openness to trade between countries. Leblang (2010) documents greater FDI and portfolio investment between countries with stronger immigrant diaspora network links. Gould (1994) has shown that immigrant business relationships based on common ethnicity and cultural heritage are associated with an increase in bilateral international trade between US and immigrants' home countries. Tung and Chung (2010) document similar trends for Chinese immigrant businesses in Australasia. Chung (2004) and Chung, Enderwick, and Jinda-Naruemitmong-konsuk (2010) record that immigrant business executives with knowledge straddling home and host countries are vital for successful entry and adaptation strategies in international markets. Consistent with these papers and my framework, I predict that immigrant remittances will engender other economic flows, increasing the international engagement of developing-country businesses. Hypothesis 3 thus connects micro individual activities to broader country-wide trends in predicting that:

Hypothesis 3: There is a positive relationship between immigrant remittances and the level of economic internationalization in developing countries.

These direct effects could be moderated by TCE and/or social knowledge characteristics of the immigrant investor or investor group. My

framework highlights two such moderators. I have already noted Madhavan and Iriyama's (2009) network-related theory and evidence suggesting that better-educated immigrants are also more capable of conveying entrepreneurial money and ideas internationally. Their evidence contributes to a longer-running research stream on the mobility of better-skilled immigrants, and what their departure from the home country does to induce a brain drain detracting from economic growth (Docquier & Marfouk, 2006). If remittances constitute partial compensation for that brain drain, then that partial compensation is greater to the extent that the remittances come from immigrants with better education. Hypothesis 4 does not reject the importance of shared clan and community membership. It assumes that shared educational background strengthens these more broadly based connections in predicting that:

Hypothesis 4: The positive impact of immigrant remittances on the developing-country venture investment environment is greater for developing countries with better-educated immigrants.

Collective immigrant characteristics may also moderate the venture investment impact of remittances. One such characteristic relates to the concentration of an immigrant community. Business enclaves analyzed by Webb et al. (2009) often develop around facilities and conventions that have public good attributes. Use by one enclave member does not exclude another's use, and often decreases the cost and increases the effectiveness of use by both. The creation and growth of major financial institutions in immigrant communities of the US follows this logic. The Bank of America originated in the Italian immigrant community of San Francisco in the early 1900s, and Thrivent Financial for Lutherans began life as a fraternal organization in the early 1900s serving the financial services needs of Scandinavian immigrant communities in Minnesota and Wisconsin. Both served concentrated immigrant communities. Remittance services figured in the early growth of both firms.

Well-defined and geographically proximate immigrant communities also promote the development of public conventions decreasing remittance transaction costs and diffusing more readily knowledge about pro-

spective remittance uses. Remittance transactions in Muslim communities of North Africa and the Middle East are still guided by informal debt-transfer practices based on *hawala* principles in classical Islamic law (Qorchi et al., 2003). Like Hypothesis 4, Hypothesis 5 builds on basic framework assumptions, and emphasizes the venture investment advantages of immigrant concentration in predicting that:

Hypothesis 5: The positive impact of immigrant remittances on the developing-country venture investment environment is greater for developing countries with more concentrated immigrant communities abroad.

These five predictions are summarized in Figure 9.1. Informal cross-country relationships decreasing transaction costs and increasing transaction knowledge permit developing-country immigrants to remit money and ideas directly, enhancing the overall venture-investing environment back home. The direct impact of remittances is, in turn, moderated positively by individual and collective factors related to immigrants in host countries.

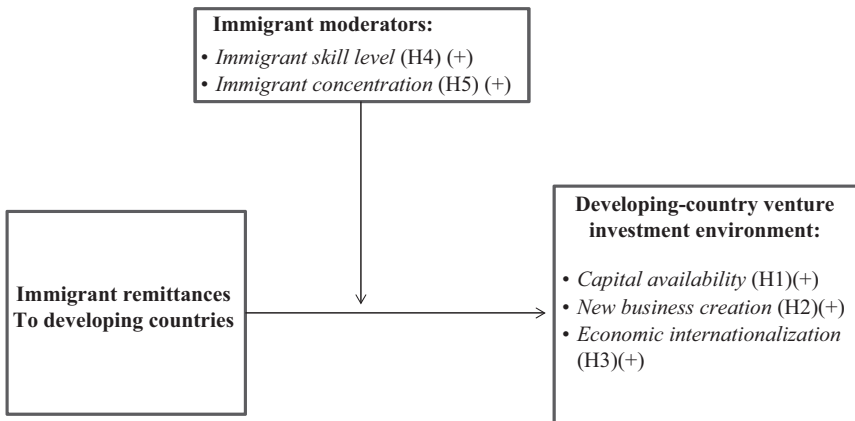


Figure 9.1 Hypotheses derived from theoretical framework

Empirical Methodology

Empirical Equation Terms

To assess empirical support for these five predictions I define the equation below:

$$\begin{aligned}
 Y_{ijt} = & \alpha + \sum_{k=1}^{k=9} \lambda_{ijt,t-1} Controls + \beta_1 Remittances_{ijt,t-1} \\
 & + \sum_{m=1}^{m=q} \phi_m Moderators_{ij} + \sum_{t=2004}^{t=2007} \xi_t Years \\
 & + \sum_{j=1}^{j=5} \gamma_j Regions + \varepsilon_{ijt}
 \end{aligned}
 \tag{9.1}$$

Details regarding all individual terms of Eq. (9.1) are provided in Table 9.1. The dependent variable, Y_{ijt} , is measured differently depending on which hypothesis I am testing, but subscripts for country i , geographic region j and year t remain the same. The dependent variable is regressed on an intercept (α), a series of country i controls (*Controls*), country i remittances (*Remittances*), moderators to assess differences in remittance effects (*Moderators*), and fixed effects related to the year t (*Years*) and geographic region j (*Regions*) of a given observation.

I exclude moderators from Eq. (9.1) for initial testing of Hypotheses 1–3 concerning the direct impact of remittances on alternative indicators of the home-country venture investment environment. Hypothesis 1 predicts a positive relationship between remittances and capital available to entrepreneurs back home. I measure Y_{ijt} as capital availability in two ways. One measure, *General Capital Access*, is a 0–10 (0=low, 10=high) composite index number for country i in region j in year t based on annual assessments of seven components by researchers at the Michael Milken Institute (Apinard et al., 2002–2008): macroeconomic environment, institutional environment, financial industry development, equity market development, bond market development, international funding

and “alternative sources of capital”. In the sample described below, *General Access to Capital* ranges from 2.09 (Haiti in 2007) to 7.22 (Malaysia in 2004).

A second measure, *Venture Capital Access*, is based solely on the alternative sources of capital component of *General Capital Access*. It again comes from researchers at the Milken Institute (Apinard et al., 2002–2008), and is once more measured as a 0–10 index. *Venture Capital Access* index numbers are based on evaluation of three factors: venture capital, private placements and credit cards. Values range from 0 (Mozambique in 2006) to 6.26 (India in 2004). Thus there are both broadly and narrowly defined indicators of capital availability to evaluate Hypothesis 1’s prediction that remittances enhance home-country venture funding.

To evaluate support for Hypothesis 2’s prediction that remittances enhance home-country venture foundings, I measure Y_{ijt} as the annual count of newly registered corporations for country i in region j in year t . This *New Business Creation* count includes businesses that are incorporated as a legal entity and registered in a public registry, but does not include other unregistered business starts (World Bank, 2010). Annual new business counts range from 2 (Haiti in 2002) to 529,416 (Brazil in 2007) in my sample. This count likely understates actual new business starts in less-developed countries with fewer regulatory resources or greater government corruption. I explore the implications of such understatement in analyses below.

To evaluate Hypothesis 3’s prediction that remittances enhance broader country openness to trade, I also measure Y_{ijt} as the sum of imports and exports divided by GDP for country i in region j in year t .

This measure of *Economic Internationalization* reflects the extent to which economic activity within a country depends on international trade (Yanikkaya, 2003). In the sample, trade openness ranges from 0.26 or 26% of GDP (Brazil in 2002) to 2.13 or 213% of GDP (Malaysia in 2002).

The key right-hand side term of Eq. (9.1) for Hypotheses 1–3 is *Remittances*, which is measured as the per capita sum of workers’ remittances, compensation of employees and migrant transfers in thousands of US dollars for country i in region j averaged over years t and $t - 1$. As with other control terms on the right-hand side of Eq. (9.1), I

Table 9.1 Variables list for analyses of remittances and the developing-country venture investment environment, 2002–2007

Variable name	Variable description	Source	Expected sign
<i>General Capital Access</i> (Y_{jt})	0–10 integral measure of the breadth, depth and vitality of capital markets, and openness in providing access without discrimination to entrepreneurs for country j in region j averaged over years t and $t-1$. 0=low, 10=high	Milken Institute Capital Access Index (Apinard et al., 2002–2008)	H1, H4, H5: dependent variable (DV)
<i>Venture Capital Access</i> (Y_{jt})	0–10 integral measure depth, breadth and vitality of specific capital market sources such as venture capital, private placements and credit cards for country i in region j averaged over years t and $t-1$. 0 = low, 10 = high	Milken Institute Capital Access Index (Apinard et al., 2002–2008)	H2, H4, H5: DV
<i>New Firm Creation</i> (Y_{jt})	The number of newly registered corporations for country i in region j in year t	World Bank, Doing Business Database (World Bank, 2010)	H2, H4, H5: DV
<i>Economic Internationalization</i> (Y_{jt})	Sum of exports and imports divided by gross national income in US dollars for country i in region j in year t	World Bank, World Development Indicators (World Bank, 2010)	H3, H4, H5: DV
<i>Economic Size</i> (λ_1)	Natural log of GDP in US dollars for country i in region j averaged over years t and $t-1$	World Bank, World Development Indicators (World Bank, 2010)	+except when DV is <i>Economic Internationalization</i> , –
<i>Economic Growth</i> (λ_2)	Real annual percentage growth in GDP for country i in region j averaged over years t and $t-1$	World Bank, World Development Indicators (World Bank, 2010)	+

<i>Inflation</i> (λ_3)	Consumer price inflation percentage for country i in region j averaged over years t and $t - 1$	World Bank, World Development Indicators (World Bank, 2010)	-
<i>Per Capita Income</i> (λ_4)	Per capita gross national income for country i in region j averaged over years t and $t - 1$	World Bank, World Development Indicators (World Bank, 2010)	+
<i>Common Law</i> (λ_5)	0 - 1 dummy, where 1 = common law origin. 0 = otherwise for country i in region j (fixed over all years t)	CIA World Fact Book (CIA, 2005)	+
<i>Rule of Law</i> (λ_6)	-2.5 to +2.5 measure of the extent of quality of contract enforcement, property rights, the police, and the courts, crime and violence for country i in region j averaged over years t and $t - 1$. -2.5=weak rule of law; 2.5=strong rule of law	Kaufmann et al. (2008)	+
<i>Political Rights (Lack of)</i> (λ_7)	1-7 integral measure of the level of political rights (e.g., right of citizens to vote for national executive) for country i in region j averaged over years t and $t-1$. 1=strong political rights, and 7=weak political rights	Freedom House (2010)	-
<i>FDI Inflow</i> (λ_8)	Inward foreign direct investment (i.e., foreign equity capital, foreign reinvested earnings and foreign intracompany loans) in billions of US dollars for country i in region j averaged over years t and $t - 1$	World Bank, World Development Indicators (World Bank, 2010)	+

(continued)

Table 9.1 (continued)

Variable name	Variable description	Source	Expected sign
<i>State Share of Economy</i> (λ_{i0})	Percentage of GDP accounted for by government and state-owned enterprises	World Bank, World Development Indicators (World Bank, 2010)	-
<i>Remittances</i> (β_1)	Per capita sum of workers' remittances, compensation of employees, and migrant transfers in US dollars for country i in region j averaged over years t and $t - 1$	World Bank, Development Prospects Database (World Bank, 2010)	+
<i>Immigrant Skill Level</i> (ϕ_{1a})	0-1 dummy, where 1 = country i from region j with more than 50% of immigrants living in North America, Europe and Asia-Oceania in 2000 (fixed over all years t).	Docquier & Marfouk (2006)	+
<i>Immigrant Concentration</i> (ϕ_{1b})	0-1 dummy, where 1 = country i from region j with a Herfindahl, Hirschman Index greater than 0.34, indicating high concentration of immigrants in all possible host countries in 2000 (fixed over all years t)	United Nations (2004); Parsons et al. (2007)	+

measure *Remittances* as a two-year moving average to capture both contemporaneous and lagged effects on the dependent variables. In the sample, values of *Remittances* range from nil (Malawi in 2007) to 1.32 or \$1320 per home-country resident (Lebanon in 2005). Consistent with Hypotheses 1–5, I expect the coefficient on *Remittances* to be positive.

To account for other factors explaining variation in dependent variables, Y_{ijt} , I also include nine country controls ($Controls_{\lambda 1-9}$) used in recent management research (e.g., Vaaler, 2008) and in related political economy research (e.g., Henisz, 2000) to explain overall country attractiveness for lending, investment and new business project establishment: economic size, economic growth, per capita income, inflation, common law legal system, rule of law quality, lack of political rights, FDI inflow, and the share of GDP accounted for by government and state-owned enterprises. Table 9.1 describes these controls, including their measurement, data sources and expected sign in estimations. They are measured as two-year moving averages to capture both contemporaneous and lagged effects.

To capture other unspecified effects, I also include 0–1 year (*Years*) and geographic region (*Regions*) dummies. The first year observed for the dependent variable in the sample, 2002, is omitted, and five 0–1 year dummies for years 2003–2007 are included. I also define a scheme of six geographic regions (1=East Asia & Pacific, 2=Europe & Central Asia, 3=Latin America & Caribbean, 4=Middle East & North Africa, 5=South Asia, 6=sub-Saharan Africa), omit the final region, sub-Saharan Africa, and include five 0–1 dummies for others.

To test Hypotheses 4–5 regarding individual and collective immigrant factors possibly magnifying the effect of remittances on venture investment indicators back home, I include additional moderator terms, most importantly interaction terms combining *Remittances* with one of two terms corresponding to proposed moderator effects. The interaction terms capture differences in the impact of *Remittances* on the home-country venture investment environment. These moderators vary across countries i but are fixed rather than varying across years t .

To test Hypothesis 4's prediction that immigrant skill level magnifies the impact of remittances on various indicators of the home-country ven-

ture investment environment, I include an interaction term combining *Remittances* with *Immigrant Skill* ($IS \times Remittances$). *Immigrant Skill* is based on the fraction of immigrants from country i of region j living abroad in 2000 with tertiary (+13 years) education (Docquier & Marfouk, 2006). Measures vary from 0.09 or 9% of immigrants (Turkey) to 0.67 or 67% of immigrants (Philippines), with a mean of 0.41 (41%) and a standard deviation of 0.15. I define *Immigrant Skill* as a 0–1 dummy, where 1 indicates a country with more than 0.50 (top quartile of education for immigrants from all countries sampled) of immigrants in 2000 with tertiary education. Consistent with Hypothesis 4, I expect the $IS \times Remittances$ interaction term to be positive.

To test Hypothesis 5's prediction that immigrant community concentration magnifies remittance impact on venture investment back home, I include an interaction term combining *Remittances* with *Immigrant Concentration* ($IC \times Remittances$). *Immigrant Concentration* is based on a Herfindahl–Hirschman Index (HHI) number running from 0 to 1, with values near 1 indicating greater immigrant community concentration across all host countries, and values near 0 indicating greater immigrant community diffuseness across all host countries. *Immigrant Concentration* is derived by first squaring and then summing fractions of immigrants from country i of region j living in each host country in 2000 (Parsons, Skeldon, Walmsley, & Winters, 2007; United Nations, 2004). The resulting HHI numbers range from 0.075 (India) to 0.85 (Mexico), with a mean of 0.26 and a standard deviation of 0.18. I define *Immigrant Concentration* as a 0–1 dummy, where 1 indicates a country with an HHI number greater than 0.35 (top quartile of concentration for immigrants from all countries sampled) in 2000. Consistent with Hypothesis 5, I expect the $IC \times Remittances$ interaction term to be positive.

Estimation Strategy

I use Stata Version 11.0 (StataCorp, 2009) for all analyses. For an initial understanding of cross-country trends related to Hypotheses 1–3, I present results from non-parametric, locally weighted, scatter-plot smoothed (“Lowess” or “lowess” command in Stata) analyses with

Remittances on the x -axis and one of four different measures of the dependent variable, Y_{ijt} , on the y -axis. Lowess analyses compute linear regressions around each observation of $Remittances_{ijt}$ with neighborhood observations chosen within some sampling bandwidth and weighted by a tri-cubic function. Based on the estimated regression parameters, Y_{ijt} values are computed. Combinations of $Remittances_{ijt}$ and Y_{ijt} are then connected, yielding a Lowess curve. A higher bandwidth results in a smoother Lowess curve. I use the default bandwidth, sampling 40% of the observations to the left and right of each pair of $Remittances_{ijt}$ and Y_{ijt} values.

I then turn to multivariate estimations of Eq. (9.1) to test Hypotheses 1–5. I have unbalanced panel data with missing data for certain countries i (in regions j) and years t . When the dependent variable, Y_{ijt} , is *General Capital Access*, *Venture Capital Access* or *Economic Internationalization*, I use linear estimators. I start with ordinary least-squares regression (“OLS” or “reg” command in Stata) and the nine country controls. These OLS estimations provide an overall sense of equation explanation. I then implement several panel-feasible generalized least squares estimations (“GLS” or “xtgls” command in Stata) with robust (to panel heteroskedasticity) standard errors and panel-specific first-order autoregressive processes. To assess the robustness of these findings to possible endogeneity issues, I also present results based on a third generalized method of moments (GMM) dynamic panel estimator based on research by Arellano and Bover (1995) and Blundell and Bond (1998) (“DPDSYS” or “xtdpdys” command in Stata). The dynamic panel estimator includes plausibly exogenous instruments based on lags of left-hand-side dependent and possibly endogenous or predetermined right-hand-side variables. The lagged dependent variable also acts as a “catch-all” control capturing past effects on venture investment indicators not otherwise covered in Eq. (9.1).

When Y_{ijt} is *New Business Creation* I am using annual count measures, thus a nonlinear estimator is appropriate. Preliminary investigation of the sample suggests over-dispersion, so I use negative binomial estimation (“NBR” or “nbreg” command in Stata), again with robust standards. For each set of regressions based on Eq. (9.1), I begin with the nine controls, then add *Remittances*, and then add year and region dummies. For examination of moderator effects, I add moderators to Eq. (9.1). I then report results for each of the four venture investment indicators after estimation

with other right-hand-side controls and dummies. I use a simulation approach to assess the practical impact of these interactions.

Sampling and Data Sources

I sample from 61 non-OECD countries and countries comprising popular developing-country investment indices (e.g., J.P. Morgan Emerging Market Bond Index) for which remittance and venture investment environment data are available from 2002 to 2007.⁸ This period saw steady growth in remittances between global economic shocks tied to the terrorist attacks of 2001 and US and European financial crises in 2008. These years also saw better monitoring of remittance flows for taxation and anti-terrorism purposes, as well as better harmonization of remittance accounting and compilation, thanks in part to work by the International Monetary Fund and World Bank (IMF, 2009; Reinke, 2007; World Bank, 2006). These attributes probably decrease potential measurement error of this key variable compared with other empirical studies using remittance data from the 1990s and earlier (e.g., Aggarwal, Demirgüç-Kunt, & Martínez Pería, 2010).

Data availability varies for the four dependent variable measures, thus sample size and scope of developing-country coverage also vary. In testing Hypotheses 1–3, sample scope and size decrease as the dependent variable switches from *General Capital Access* and *Economic Internationalization* (61 countries and 348 country-year observations), to *Venture Capital Access* (59 countries and 304 country-year observations), to *New Business Creation* (45 countries and 209 country-year observations).

Data for the study come from several sources. Annual data on *General Capital Access* and *Venture Capital Access* come from Milken Institute Capital Access indices, which have gained usage in recent cross-country finance research (e.g., Doidge, Karolyi, & Stulz, 2004). These indices are measured from 0 to 7 up to 2002, and then from 0 to 10 through 2007. I convert all *General Capital Access* and *Venture Capital Access* measures to the 0–10 scale. Data on *New Business Creation* come from the World Bank Doing Business Database available as part of the World Bank's World Development Indicators (WDI) (World Bank, 2010). Annual

data on Economic Internationalization also come from the WDI. Annual data for the nine country controls in Eq. (9.1) come from the WDI (*Economic Size, Economic Growth, Inflation, Per Capita Income, FDI Inflow, State Share of Economy*), the *CIA World Factbook* (CIA, 2005) (*Common Law*), Freedom House (2010) (*Political Rights (Lack of)*), and Kaufmann, Kraay, and Mastruzzi (2008) (*Rule of Law*). Annual data on *Remittances* come from the World Bank Development Prospects Database and the IMF's *Balance of Payments Statistics Yearbook*. These data are again available through the WDI (World Bank, 2010).

Data on *Immigrant Skill* come from study of mobility among skilled immigrants in 2000 generated by Docquier and Marfouk (2006). The United Nations (2004) and Parsons et al. (2007) provide bilateral country data on immigrants in 2000 to permit generation of *Immigrant Concentration* values. Both data sources merit additional explanation. Parsons et al. (2007) draw on 2000 or near-2000 year census data primarily from the United Nations (2004) covering 226 countries and territories, including those countries sampled in this study. The definition of a “migrant” is often based on place of birth vs residence, but some countries use different criteria. Parsons et al. describe how such differences are harmonized and adjusted to permit better comparability of resulting figures for research and policymaking purposes. I use Version 4a (United Nations, 2004) of the bilateral migration data, generally considered the most comparable source for research purposes.

Docquier and Marfouk (2006) draw on a less sweeping range of census and registration data to estimate immigrant education levels in 2000 for 195 countries, including those I analyze below. They work with census and registration data from all OECD countries and six non-OECD countries. Census and registration data on immigrant education for 2000 are less reliable or non-existent in many non-OECD countries. Docquier and Marfouk work on the assumption that the education level of immigrants living in non-OECD countries is, with few exceptions, quite low. Thus it is possible that they underestimate immigrant education levels for a few developing countries with more “South–South” rather than “South–North” migration patterns. That said, I know of no better source for standardized cross-country data on immigrant education and training levels.⁹

The sample reveals substantial variation across developing countries. Average remittances from 2002 to 2007 are equal to at least 10% of GDP for 12 of 61 countries sampled. Average remittances over that same period for less-developed countries such as Haiti (\$897 million), Jordan (\$2.428 billion), Lebanon (\$4.399 billion) and Moldova (\$723 million) are equal to or more than 20% of each country's GDP. Average remittances over that same period for more prominent emerging-market countries such as Brazil (\$3.274 billion), Russia (\$2.388 billion), India (\$20.497 billion), China (\$18.266 billion) and Mexico (\$17.984 billion) are generally much higher absolutely, but never reach even 3% of each country's GDP. Such sample characteristics suggest greater potential for enhancement of the venture investment environment in less-developed countries. I investigate this possibility in analyses below.

Results

Descriptive Statistics, Pairwise Correlations and Non-parametric Analyses

Table 9.2 reports descriptive statistics and pairwise correlations for all variables used in our analyses. *Remittances* are, on average, approximately \$100 per person (0.10) annually, with two thirds of the countries lying between \$0 and almost \$250. El Salvador (\$350), Jordan (\$435), Jamaica (\$440) and Lebanon (\$1320) exhibit the highest average annual per capita remittances in the sample. As yet another indication of their practical impact, these per capita remittance figures comprise from about one sixth (for El Salvador and Jamaica) to nearly one fourth (for Jordan and Lebanon) of total per capita income.

Most means and standard deviations for the right-hand-side terms of Eq. (9.1) indicate trends consistent with commonly held assumptions about the venture investment environment of developing countries. For example, sample means for *General Capital Access* (4.22) and *Venture Capital Access* (2.66) on a 0–10 scale are consistent with assumptions of relative capital scarcity in developing countries compared with

mean levels of *General Capital Access* (7.01) and *Venture Capital Access* (5.20) for developed (OECD) countries during the same years. Other mean values follow developing-country assumptions of higher (than industrialized country) economic growth rates (5.24%) and inflation rates (8.18%), and lower per capita annual income (2.45 or \$2450) and rule of law (−0.40), indicating less than average respect for law, legal processes and legal officialdom.

Pairwise correlations indicate that *Remittances* is positively related (as expected) to *General Capital Access*, *Economic Internationalization* and *Venture Capital Access*, with the first two correlations significant at the 1% level. *Remittances* exhibits a negative correlation with *New Business Creation*, although the correlation is not significant at commonly accepted levels. Aside from interaction terms, *Remittances* exhibits no high pairwise correlations with other independent variables, thus indicating that severe multicollinearity affecting multivariate estimates is unlikely.

Non-parametric, bivariate Lowess analyses in Figures 9.2(a)–(d) expand on these initial insights, and provide preliminary evidence related Hypotheses 1–3. Below the sample average (0.10 or \$100 per capita annual remittances), an increase in *Remittances* leads to steeply increasing *General Capital Access*, *Venture Capital Access* and *Economic Internationalization* in Figures 9.2(a), (b) and (d). The positive trend line is consistent at different corresponding values of *Remittances* and *General Capital Access* or *Economic Internationalization* in Figures 9.2(a)–(d). Indeed, the trend line starts sharply positive for corresponding values of *Remittances* and *Venture Capital Access*, but then levels off and even turns down slightly at high levels of *Remittances*. The trend line for corresponding values of *Remittances* and *New Business Creation* in Figure 9.2(c) presents an anomaly. I convert the count of new businesses into a percentage rate of new business starts to yield more intuitive linear estimates. Generally, increasing levels of *Remittances* lead to lower (not higher) new business start rates. Thus I observe preliminary evidence supporting Hypotheses 1 and 3. Immigrant remittances are positively related to the availability of venture capital, whether broadly or narrowly assessed. Remittances are also positively related to broader economic internationalization. But rates of new business creation exhibit trends contrary to

Table 9.2 Descriptive statistics and pairwise correlations of remittances and venture investment environment indicators, 2002–2007^a

Variables	Mean	Std	1	2	3	4	5	6	7
1. <i>General Capital Access</i>	4.22	1.00							
2. <i>Venture Capital Access</i>	2.62	1.59	0.63**						
3. <i>New Business Creation</i>	33.27	88.62	0.10	0.13 [†]					
4. <i>Economic Internationalization</i>	0.81	0.36	0.25**	0.17**	-0.23**				
5. <i>Remittances</i>	0.10	0.18	0.18**	0.04	-0.13*	0.29**			
6. <i>Economic Size</i>	24.03	1.65	0.50**	0.44**	0.54**	-0.28**	-0.10*		
7. <i>Economic Growth</i>	5.24	2.93	0.07	-0.08	0.02	0.15**	-0.10*	0.11*	
8. <i>Income Per Capita</i>	2.45	2.36	0.60**	0.34**	0.20	0.17**	0.23**	0.38**	0.02
9. <i>Inflation</i>	8.18	7.13	-0.27**	-0.17**	0.20	-0.14**	-0.15**	-0.04	-0.13**
10. <i>Common Law</i>	0.28	0.45	0.02	-0.10 [†]	-0.17**	-0.06	-0.15**	-0.01	-0.00
11. <i>Rule of Law</i>	-0.40	0.56	0.60**	0.30**	-0.10	0.32**	0.03	0.08	0.11*
12. <i>Political Rights (Lack)</i>	3.52	1.73	-0.27**	-0.27**	0.00	0.01	0.04	-0.01	0.04
13. <i>FDI Inflow</i>	3.13	8.61	0.29**	0.21**	0.81**	-0.15**	-0.07	0.60**	0.19**
14. <i>State Share of Economy</i>	13.37	4.32	0.32**	0.19**	0.16*	0.08	0.10*	-0.00	-0.05
15. <i>Immigrant Skill</i>	0.25	0.43	0.24**	0.09 [†]	0.13*	0.15**	-0.11*	0.14**	0.08
16. <i>Immigrant Concentration</i>	0.26	0.44	-0.11*	-0.10 [†]	-0.14*	0.03	0.20**	-0.17**	-0.10*
17. <i>IS × Remittances</i>	0.02	0.06	0.19**	0.07	-0.05	0.27**	0.22**	-0.03	-0.14**
18. <i>IC × Remittances</i>	0.04	0.11	0.02	0.01	-0.09	0.02	0.48**	-0.13**	-0.11**
19. <i>SSE × Remittances</i>	1.44	2.80	0.20**	0.06	-0.14*	0.31**	0.97**	-0.11*	-0.08

^aThe number of observations used to compute sample means, standard deviations and pairwise correlations varies from 209 to 348. Specific numbers of observations for each variable are available on request. *IS* in *IS × Remittances* refers to *Immigrant Skill*. *IC* in *IC × Remittances* refers to *Immigrant Concentration*.

** $p < 0.01$, * $p < 0.05$, [†] $p < 0.10$.

8	9	10	11	12	13	14	15	16	17	18
-0.04										
-0.22**	0.09 [†]									
0.51**	-0.20**	0.04								
-0.29**	-0.09 [†]	-0.04	-0.36**							
0.16**	-0.05	-0.10*	0.04	0.16**						
0.37**	-0.15**	0.06	0.41**	-0.11*	0.08					
0.16**	0.06	0.13**	0.21**	0.08	-0.03	0.29**				
-0.04	-0.00	-0.13**	-0.24**	-0.08	-0.09 [†]	-0.20**	-0.18**			
0.05	-0.09 [†]	-0.11*	-0.24**	0.04	-0.04	0.24**	0.46**	-0.11*		
0.05	-0.01	-0.02	-0.13**	-0.12**	-0.06	-0.17**	-0.20**	0.66**	-0.09 [†]	
0.25**	-0.16**	-0.13**	0.09 [†]	0.07	-0.07	0.23	-0.05	0.09 [†]	0.34**	0.33**

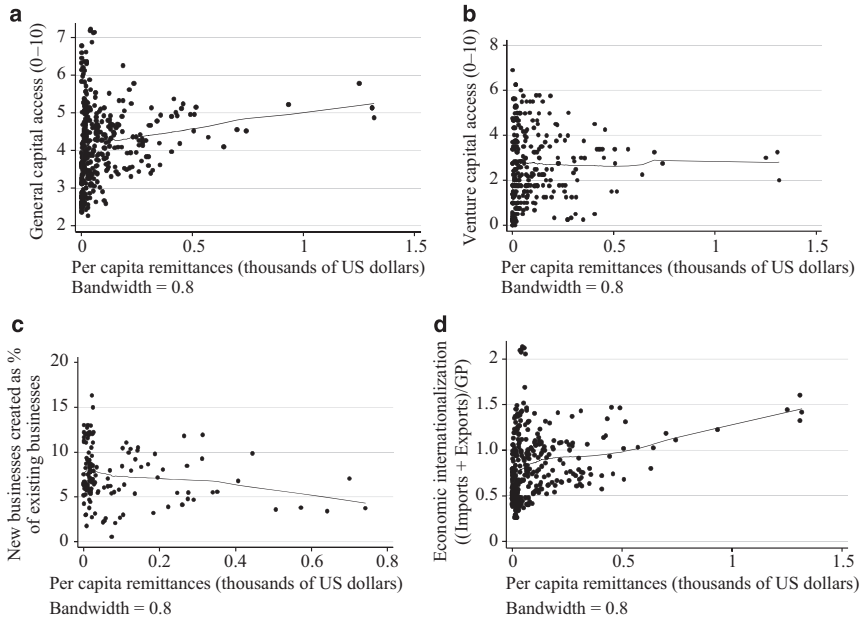


Figure 9.2 Locally weighted scatter-plot smoothed (Lowess) results for venture investment environment indicators, 2002–2007

Hypothesis 2's prediction of increased venture foundings as immigrants remit money and ideas.

Multivariate Regression Results: Direct Effects (Hypotheses 1–3)

Results from multivariate regression analyses of direct effects related to Hypotheses 1–3 are presented in Tables 9.3, 9.4, and 9.5. Table 9.3 presents results from multivariate regression analyses where the dependent variables are *General Capital Access* (columns 1–4) or *Venture Capital Access* (columns 5 and 6).¹⁰ They permit formal tests of Hypothesis 1 and the predicted positive relationship between developing-country remittances and home-country capital availability. OLS results in column 1 largely follow expectations. In regressing *General Capital Access* on an

intercept and nine country controls only, I find that seven *Controls* exhibit the expected signs and six do so at 5% or 1% levels of statistical significance. OLS estimation explains almost two thirds ($R^2=0.63$) of variation in this broad indicator of capital availability. Thus I move to more refined estimators and equation specifications with substantial assurance of a well-specified base equation. In column 2, OLS is replaced with panel GLS including robust (to panel heteroskedasticity) standard errors and panel-specific corrections for firstorder auto-correlation. Six of nine *Controls* exhibit the expected sign, with all six statistically significant at the 1% level.

Columns 3 and 4 of Table 9.3 report panel GLS results with the addition of *Remittances*. In column 3, *Remittances* (0.81) enters with a positive sign statistically significant at the 1% level. It remains so after the addition of year and region dummies in column 4 (0.77). Both results support Hypothesis 1. Although integral in nature, *General Capital Access* and *Venture Capital Access* measures are often used in practice by researchers and analysts to rank countries and assess changes in ranking over time. Given results in columns 3 and 4, an increase of one standard deviation (0.18=\$180) above the mean per capita remittance level (0.10=\$100) raises a country's *General Capital Access* score from the mean of 4.22 to 4.36, based on results in column 4 ($4.22 + (0.18 \times 0.77)=4.36$) and 4.37 based on results in column 3 ($4.22 + (0.18 \times 0.81)=4.37$). Such an increase translates into a rank increase of about four levels on the Milken Institute index. From 2004 to 2005, 33 of 99 developing countries ranked by the Milken Institute moved up or down fewer than three levels, and 56 of 99 developing countries moved up or down fewer than five levels. Thus a move of four levels has practical importance for ranking purposes.

When I replace *General Capital Access* with the more narrowly defined measure *Venture Capital Access*, results are mixed. Consistent with Hypothesis 1, I find in column 5 that *Remittances* (0.62) enters with a positive sign statistically significant at the 5% level. An increase of one standard deviation above the mean per capita remittance level raises a country's *Venture Capital Access* score from the mean of 2.63 to 2.74 ($2.76 + (0.18 \times 0.62)=2.74$). That increase in score would move a country up three rank levels on the Milken Institute index in a given year. But this

Table 9.3 Regression analyses of remittances and general capital access (columns 1–4) and venture capital access (columns 5–6), 2002–2007^a

Variables	Estimators					
	Controls only			Controls, remittances		
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS, GCA	FGLS, GCA	FGLS, GCA	FGLS, GCA	FGLS, VCA	FGLS, VCA
Constant (α)	-0.95 (0.69)	-0.01 (0.57)	-0.74 (0.57)	-1.54** (0.55)	-6.49** (1.19)	-4.76** (1.22)
Economic Size (λ_1)	0.22** (0.03)	0.16** (0.02)	0.21** (0.02)	0.20** (0.02)	0.40** (0.05)	0.26** (0.05)
Economic Growth (λ_2)	-0.01 (0.01)	-0.02** (0.01)	-0.01† (0.00)	-0.02** (0.01)	-0.06** (0.01)	-0.07** (0.02)
Per Capita Income (λ_3)	0.11** (0.02)	0.15** (0.01)	0.08** (0.01)	0.05** (0.01)	-0.01 (0.01)	0.09† (0.04)
Inflation (λ_4)	-0.03** (0.00)	-0.01** (0.00)	-0.01** (0.00)	-0.02** (0.00)	-0.01† (0.00)	-0.01 (0.01)
Common Law (λ_5)	0.26** (0.08)	0.28** (0.06)	0.14** (0.06)	0.87** (0.08)	-0.17 (0.12)	0.38** (0.12)
Rule of Law (λ_6)	0.63** (0.08)	0.62** (0.06)	0.67** (0.06)	0.53** (0.09)	0.54** (0.17)	0.17 (0.16)
Political Rights (Lack of) (λ_7)	-0.05* (0.02)	0.02 (0.02)	-0.03* (0.02)	-0.03 (0.02)	-0.23** (0.05)	-0.26** (0.05)
FDI Inflow (λ_8)	0.00 (0.00)	0.01** (0.00)	0.01* (0.00)	0.00 (0.00)	0.00 (0.01)	-0.00 (0.00)
State Share of Economy (λ_9)	0.01 (0.01)	0.02* (0.00)	0.01† (0.01)	0.02** (0.01)	0.04** (0.01)	0.10** (0.02)
Remittances (β_1)	No	No	No	0.81** (0.11)	0.77** (0.16)	0.62* (0.30)
Years (ξ_{1-5}) and Regions (ν_{1-5})	No	No	No	Yes	No	Yes
N	349	348	348	348	304	304
Wald χ^2 (Adj. R ²)	(0.63)	1959.58**	1227.90**	2409.02**	1107.17**	2000.43**

^aColumns 1–6 report regression coefficients and robust standard errors (in parentheses). OLS refers to ordinary least-squares estimation. FGLS refers to panel-feasible generalized least-square estimation with robust Huber-White sandwich standard errors and panel (country) specific first-order autoregressive processes. GCA refers to *General Capital Access* as the dependent variable. VCA refers to *Venture Capital Access* as the dependent variable. Regression results for region and year dummies are available on request. ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$.

supporting evidence is not confirmed in column 6, where I add year and region dummies to Eq. (9.1). After these additions, the coefficient for *Remittances* exhibits the wrong (negative) sign, and is not significant at commonly accepted levels.

Together with the bivariate Lowess analyses, these multivariate analyses indicate substantial but not complete support for Hypothesis 1, and the claim that immigrant remittances materially enhance home-country capital availability. The evidence is strong for general capital availability. For more narrowly focused venture capital availability, there is also supporting evidence, but additional confirmation is warranted.

Columns 1–5 of Table 9.4 report results for *New Business Creation* as the dependent variable.¹¹ Column 1's NBR estimation of count data yields five of nine control terms with predicted signs statistically significant at 5% or 1% levels. These country-level controls are jointly significant in explaining annual counts of newly registered businesses (Wald $\chi^2 = 1134.21$, $p < 0.01$). They also have substantial practical impact, as I demonstrate by transforming NBR coefficients into more readily interpretable terms indicating impact on the rate of new business creation. For example, I transform the column 1 NBR estimate for *Economic Growth* (0.10) using the following formula: $100\% \times [\exp(0.10) - 1] = 10.5\%$. Increasing annual economic growth by one percentage point increases the rate of new business creation by 10.5%, holding other factors at their mean levels. Increasing the (lack of) *Political Rights* in a country by one unit ($100\% \times [\exp(-0.10) - 1] = -9.5\%$) decreases the rate of new business creation by 9.5%, again with other factors held at their mean levels.

Columns 2 and 3 then add *Remittances* to the base equation. In neither column does the coefficient for *Remittances* enter with significance at commonly accepted levels of statistical significance. Reviewed with the Lowess analyses exhibited in Figure 9.2(c) above, these multivariate results do not support Hypothesis 2, and raise additional doubt about any direct relationship between immigrant remittances and new business founding rates in developing countries.

But perhaps that relationship is more nuanced. In developing my framework and formulating Hypothesis 2, I noted plausible alternative arguments that could neutralize business start-up enhancement that immigrant money and ideas could promote. One such argument related

Table 9.4 Regression analyses of remittances and new business creation (columns 1–5) and economic internationalization (columns 6–9), 2002–2007^a

Variables	Estimators							
	Controls only		Controls, remittances					
	(1)		(2)		(3)		(4)	
	NBR, NBC		NBR, NBC		NBR, NBC		NBR, NBC	
Constant (α)	-9.21**	(1.41)	-8.72**	(1.58)	-12.72**	(1.50)	-9.31**	(1.54)
Economic Size (λ_1)	0.70**	(0.06)	0.68**	(0.07)	0.87**	(0.07)	0.69**	(0.06)
Economic Growth (λ_2)	0.10**	(0.02)	0.09**	(0.02)	0.03 [†]	(0.02)	0.09**	(0.02)
Per Capita Income (λ_3)	-0.08**	(0.03)	-0.06	(0.04)	-0.19**	(0.03)	-0.07 [†]	(0.04)
Inflation (λ_4)	0.04**	(0.02)	0.04**	(0.01)	0.01	(0.01)	0.04**	(0.01)
Common Law (λ_5)	-0.05	(0.11)	-0.06	(0.11)	0.63*	(0.28)	-0.10	(0.11)
Rule of Law (λ_6)	0.18	(0.13)	0.14	(0.14)	0.67**	(0.18)	0.23 [†]	(0.13)
Political Rights (Lack of) (λ_7)	-0.10*	(0.05)	-0.10*	(0.05)	0.02	(0.06)	-0.08	(0.05)
FDI Inflow (λ_8)	0.10**	(0.02)	0.09**	(0.02)	0.07**	(0.02)	0.09**	(0.02)
State Share of Economy (λ_9)	0.07**	(0.01)	0.07**	(0.02)	0.04**	(0.01)	0.10**	(0.02)
Remittances (β_1)			-0.30	(0.27)	0.32	(0.30)	4.39**	(1.68)
SSE × Remittances (β_2)							-0.31**	(0.11)
Years (ξ_{1-5}) and Regions (g_{1-5})	No		No		Yes		No	
N	209		209		209		209	
Wald χ^2 (Adj. R^2)	1134.21**		1292.05***		1578.39**		1416.06**	

^aColumns 1–9 report regression coefficients and robust standard errors (in parentheses). In columns 1–5, NBR refers to negative binomial regression estimation with robust Huber-White sandwich standard errors. NBC refers to *New Business Creation* as the dependent variable. SSE refers to *State Share of Economy*. Significant NBR two-way interaction term signs confirmed at the 1% and 10% levels, respectively, following Zelner (2009). In columns 6–9, OLS refers to ordinary least-squares estimation and FGLS refers to panel-feasible generalized least-square estimation with robust Huber-White sandwich standard errors and panel (country) specific first-order autoregressive process. *EI* refers to *Economic Internationalization* as the dependent variable. Regression results for region and year dummies are available on request. ** $p < 0.01$; * $p < 0.05$; [†] $p < 0.10$.

		Controls only				Controls, remittances			
(5)		(6)		(7)		(8)		(9)	
NBR, NBC		OLS, EI		FGLS, EI		FGLS, EI		FGLS, EI	
-12.87**	(1.51)	3.02**	(0.35)	3.04**	(0.22)	2.67**	(0.19)	2.86**	(0.19)
0.87**	(0.07)	-0.10**	(0.01)	-0.10**	(0.01)	-0.09**	(0.01)	-0.10**	(0.01)
0.03 [†]	(0.02)	0.01*	(0.01)	0.01**	(0.00)	0.01**	(0.00)	0.00**	(0.00)
-0.19**	(0.03)	0.04**	(0.01)	0.03**	(0.00)	0.02**	(0.00)	0.02**	(0.00)
0.01	(0.01)	-0.00	(0.00)	0.00**	(0.00)	0.00**	(0.00)	0.00**	(0.00)
0.60**	(0.26)	-0.02	(0.04)	-0.10**	(0.03)	-0.08**	(0.02)	0.08**	(0.03)
0.67**	(0.17)	0.21**	(0.04)	0.17**	(0.02)	0.17**	(0.02)	0.13**	(0.02)
0.01	(0.05)	0.04**	(0.01)	0.01	(0.01)	0.00	(0.01)	0.00	(0.00)
0.07**	(0.01)	0.00	(0.00)	0.00**	(0.00)	0.00**	(0.00)	-0.00**	(0.00)
0.05**	(0.02)	-0.01 [†]	(0.00)	0.00 [†]	(0.00)	0.01*	(0.00)	0.01**	(0.00)
2.66 [†]	(1.65)					0.51**	(0.05)	0.32**	(0.07)
-0.15	(0.10)								
Yes		No		No		No		Yes	
209		349		348		348		348	
1626.02***		(0.26)		483.67***		637.02**		1515.51**	

to country-level policy choices, such as the choice between lower or higher taxation, and public-sector-led or private-sector-led economic growth. Countries preferring higher state taxation rates or more involvement by state agencies or enterprises in economic development could “crowd out” private players, including would-be venture investors living abroad. If so, then the impact of remittances on new business starts might still be positive, but only when state economic involvement is low enough to create space for cross-country immigrant ventures. I investigate empirical support for that possibility in columns 4–5 of Table 9.4. There, I interact the country-level variable *State Share of the Economy* with *Remittances*. Consistent with the conjecture above, I expect a negative sign on this interaction term. Second, I expect a positive sign on *Remittances* alone, thus indicating that immigrant money and ideas do stimulate home-country business creation, but only when the public sector is sufficiently small.

Results in columns 4–5 indicate support for both expectations, consistent with Hypothesis 2. In column 4, *Remittances* (4.39) enters positively at the 1% level of statistical significance. The new interaction term ($SSE \times Remittances$) (−0.31) enters negatively also at the 1% level of statistical significance. After including year and region dummies in column 5, the signs on *Remittances* (2.66) and the interaction term, $SSE \times Remittances$ (−0.23), remain as predicted, although statistical significance levels have dropped.

I confirm these results with an alternative analytical approach proposed by Zelner (2009). He and others (e.g., Vaaler, 2008) note that interaction terms can yield less informative estimates when derived from nonlinear models such as NBR. An alternative approach investigates the moderator effects based on simulation methods developed by King, Tomz, and Wittenberg (2000). Their Clarify Version 2.1 software, an add-on to Stata, permits Monte Carlo simulation of remittance impact on new business start-up counts, given different percentages of state involvement in the economy. I run 1000 NBR-based simulations, and then set variables at their mean values and the *Common Law* dummy variable at its modal value, except for *Remittances*, *State Share of the Economy* and $SSE \times Remittances$ terms. I increase *Remittances* by one stan-

Table 9.5 Regression analyses of remittances and venture investment environment indicators with dynamic panel estimator (columns 1–3) and less-developed country subsample (columns 4–7), 2002–2007^a

Variables	Estimators						
	Controls, remittances						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Constant (α)	0.01 (1.07)	-9.30** (2.08)	0.02 (0.24)	-0.96 (1.40)	-14.88** (1.90)	-12.74 (4.27)	1.70** (0.52)
Economic Size (λ_1)	0.08 [†] (0.05)	0.36** (0.09)	-0.00 (0.00)	0.20** (0.06)	0.73** (0.09)	0.81** (0.21)	-0.04* (0.02)
Economic Growth (λ_2)	0.00 (0.00)	0.07** (0.02)	-0.00 (0.00)	-0.01 (0.01)	-0.06** (0.02)	0.10 (0.06)	0.01** (0.00)
Per Capita Income (λ_3)	0.08** (0.02)	0.25** (0.08)	0.01** (0.00)	-0.13 (0.19)	-0.85 (0.36)	0.34 (1.69)	-0.13 (0.86)
Inflation (λ_4)	-0.00 (0.00)	0.01 [†] (0.00)	-0.00** (0.00)	-0.01** (0.01)	0.00 (0.01)	-0.00 (0.01)	0.01** (0.00)
Common Law (λ_5)	0.89** (0.18)	-1.22 (0.82)	0.08** (0.02)	0.19 (0.14)	-0.83** (0.18)	0.23 (0.49)	-0.19** (0.04)
Rule of Law (λ_6)	0.64** (0.22)	-0.02 (0.28)	-0.01 (0.03)	0.24 [†] (0.13)	0.18 (0.18)	3.13** (0.47)	0.06 (0.05)
Political Rights (Lack of) (λ_7)	0.01 (0.05)	0.07 (0.12)	0.01 [†] (0.01)	-0.06 (0.04)	-0.09 [†] (0.05)	-0.08 (0.13)	-0.03** (0.01)
FDI Inflow (λ_8)	0.01** (0.00)	-0.03** (0.01)	-0.00** (0.00)	0.03 (0.06)	-0.77** (0.18)	0.70** (0.18)	0.01 (0.03)
State Share of Economy (λ_9)	-0.02** (0.01)	0.11** (0.03)	0.01** (0.00)	0.02 (0.01)	0.07** (0.03)	0.31** (0.05)	0.01** (0.00)
Remittances (β_1)	1.23* (0.51)	2.80** (0.72)	0.34** (0.08)	6.11** (1.63)	16.30** (3.27)	20.45* (9.79)	2.73** (0.51)
SSE x Remittances (β_2)						-1.79** (0.75)	

(continued)

Table 9.5 (continued)

Variables	Estimators						
	Controls, remittances						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
DPDSYS, GCA	DPDSYS, VCA	DPDSYS, EI	FGLS, GCA	FGLS, VCA	NBR, NBC	FGLS, EI	
0.43** (0.06)	0.16** (0.09)	0.74** (0.04)					
Lagged DV (Y_{ijt-1})	Yes	Yes	Yes	No	No	No	No
Years (t_{1-5}) and Regions (r_{1-3})	327	276	349	126	93	42	123
Wald χ^2 (Adj. R^2)	18,488.53**	99,255.33**	104,000**	82.42**	402.68**	1353.93**	230.64**

^aColumns 1–7 report regression coefficients and robust standard errors (in parentheses). In columns 1–3, DPDSYS refers to dynamic panel data system two-step estimator with conventionally derived variance estimator for generalized method of moments estimation. GCA, VCA and EI refer to *General Capital Access*, *Venture Capital Access* and *Economic Internationalization* as dependent variables. DPDSYS generates plausibly exogenous instruments for estimation of effects in the presence of both fixed time (year) effects and lagged dependent variable. Post-estimation assessment of instrument exogeneity is based on a Sargan test rejecting the null hypothesis of instrument exogeneity as a group. Post-estimation assessment of second-order autocorrelation is based on the Arellano–Bond (AB) test rejecting the null hypothesis of no second-order autocorrelation. I do not reject the Sargan test null hypothesis of group exogeneity for instruments generated, nor do I reject the null hypothesis of second-order autocorrelation for any of these three DPDSYS estimations. In columns 4–7, FGLS refers to panel-feasible generalized least squares estimation with robust Huber–White sandwich standard errors and panel (country) specific first-order autoregressive process. NBR refers to negative binomial regression estimation with robust Huber–White sandwich standard errors. Significant NBR two-way interaction term sign confirmed at 1% levels following Zelter (2009). GCA, VCA and EI have the same meaning as in columns 1–3. NBC refers to *New Business Creation* as a dependent variable. SSE refers to *State Share of Economy*. Regression results for region and year dummies are available on request.
** $p < 0.01$; * $p < 0.05$ level; [†] $p < 0.10$.

standard deviation, and then graph expected changes in new business counts, given increasing levels of *State Share of the Economy*.

Results are presented in Figure 9.3 using Zelner's (2009) "intgph" software, also an add-on to Stata. The trend line plots expected change in annual new business counts in response to a one standard deviation increase in *Remittances* as *State Share of the Economy* increases from 5% to 23%. Upper and lower bands are placed around that trend line, based on a 10% level of statistical significance. The trend line and non-negative lower bound of the confidence interval in Figure 9.3 confirm NBR-based trends indicated in columns 4–5 of Table 9.4. At one standard deviation lower than the sample mean of 13.37 for *State Share of Economy* (9.05) I expect new business starts to increase by almost 5000 annually, given a one standard deviation increase in *Remittances*. At the sample mean for *State Share of Economy* (13.37) the expected increase is about 2000 annually. At one standard deviation higher than that sample mean (17.69) there is no longer any expectation of increased new business starts. Such a contrast in simulated new business founding effects again indicates conditional support for Hypothesis 2.¹²

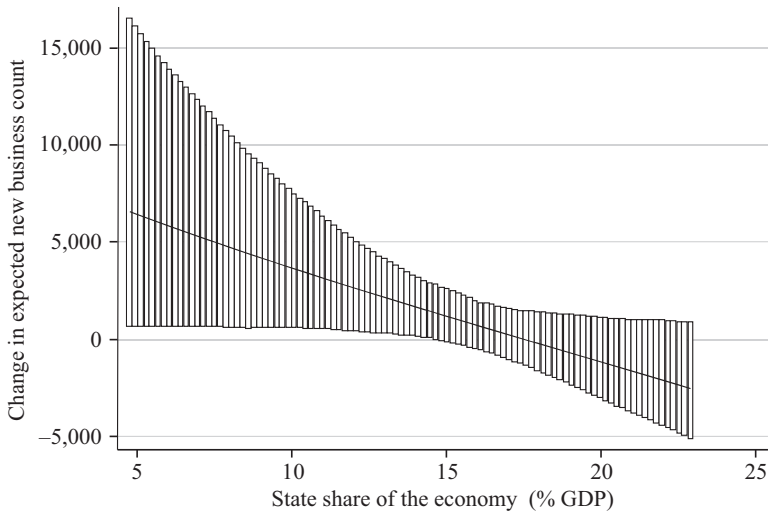


Figure 9.3 Simulation results given one standard deviation increase in remittances, 2002–2007

Columns 6–9 of Table 9.4 present results for *Economic Internationalization* as the dependent variable.¹³ OLS results in column 6 again indicate some explanation provided by the nine *Controls* (adj. $R^2=0.27$), with seven terms showing the expected sign—recall that economic size is expected to be negative, as larger countries have less need for trade openness—and five terms with expected signs at the 10%, 5% or 1% levels of statistical significance. When I shift to panel GLS estimation in column 7 there are five of nine *Controls* with the expected sign, all statistically significant at the 1% level. I then add *Remittances*, which enters in column 8 (0.51) and column 9 (0.32) with the expected positive sign at the 1% level of statistical significance, consistent with Hypothesis 3.

Recall that *Economic Internationalization* is measured as the sum of a country's annual exports and imports divided by GDP. A sample mean for *Economic Internationalization* of 0.81 implies that imports and exports sum to about 81% of a developing country's GDP. Based on results in column 8, a one standard deviation increase (0.18) in *Remittances* increases that sample mean by 9.18 percentage points ($100\% \times [(0.28 \times 0.51) - (0.10 \times 0.51)] = 9.18\%$). In column 4, the same increase implies a 5.76 percentage point increase in trade openness ($100\% \times [(0.28 \times 0.32) - (0.10 \times 0.32)] = 5.76\%$). Immigrant remittances are linked not only to venture funding and founding, but also to broader trends opening their developing economies to the world.

Robustness Analyses of Direct Effects (Hypotheses 1–3)

Two follow-up analyses assess the robustness of results related to Hypotheses 1 and 3, and address concerns of possible model misspecification. To be specific, it may be that remittances are not so much a driver as an effect of a venture investment environment back home that has benefitted from other factors, such as domestic wealth or FDI. Various methodological strategies address the possibility of reverse causation: think, for example, of the right-hand-side *Controls* averaged with both contemporaneous and lagged values. Yet it is difficult to dismiss the possibility of reverse causation based on these strategies alone.

Thus, as further assurance that the model is properly identified, I first re-estimate Eq. (9.1) using a GMM dynamic panel estimator (Arellano & Bover, 1995; Blundell & Bond, 1998). As a linear estimator, I can use it for three of the four venture investment environment indicators related to Hypotheses 1 and 3: *General Capital Access*, *Venture Capital Access* and *Economic Internationalization*. This dynamic panel estimator is particularly well suited to my panel data with broad cross-section (45–61 countries) but relatively short time-series (2002–2007). I continue to treat the *Common Law* dummy as well as the year (*Years*) and region (*Regions*) dummies as exogenous, but treat other right-hand-side terms as endogenously determined. The estimator adds to Eq. (9.1) a lagged dependent variable (Y_{ijt-1}) that acts as a “catch-all” control for past effects of whatever venture investment indicator I am analyzing. This new control is particularly relevant for estimations of *Venture Capital Access* that may be yielding anomalous results due to model under-specification. The estimator generates plausibly exogenous instruments in the form of additional lags in levels and in differences in levels for both the lagged dependent variable and *Controls* treated as endogenously determined.

Results from such estimations are presented in columns 1–3 of Table 9.5.¹⁴ Sargan tests do not reject the null hypothesis that the generated instruments are exogenous as a group. Arellano-Bond tests do not reject the null hypothesis of no second-order autocorrelation in first-differenced errors. These diagnostics suggest sensible estimates of all relevant right-hand-side equation terms. Estimates for *Remittances* are uniformly positive and significant at commonly accepted levels, consistent with Hypotheses 1 and 3. These results are especially relevant for confirming the positive and significant impact of immigrant remittances on more narrowly defined venture capital availability. Substantial coefficients for *Remittances* with *Venture Capital Access* in column 2 (2.80) and *General Capital Access* in column 1 (1.23) suggest that earlier panel GLS estimates may be conservative.

Another approach to dealing with possible reverse causation takes advantage of properties in a subsample of countries I analyze. In columns 4–7 of Table 9.5 I implement panel GLS and NBR estimations with a

subsample comprising less-developed countries with lower per capita income (<\$1500), less inward FDI (<\$1.5 billion), no extraordinarily high levels of per capita remittances (< \$200), and below average *Rule of Law* (<0.00).¹⁵ Such subsampling criteria yield a list of countries with substantial representation from Africa. For these less-developed countries it is less likely that factors other than immigrant remittances are substantially shaping the venture investment environment.

Subsample size decreases substantially, thus Eq. (9.1) cannot be estimated with year and region dummies. In columns 4–7, estimates for *Remittances* affecting *General Capital Access* (6.11), *Venture Capital Access* (16.30), *New Business Creation* (20.45) and *Economic Internationalization* (2.73) again exhibit positive signs statistically significant at the 5% or 1% levels, consistent with Hypotheses 1–3. Indeed, the estimates increase by five to ten times full-sample estimates in Tables 9.3 and 9.4. When, for example, *Remittances* is set at the subsample mean (0.04) for the 24 countries analyzed in column 5, the index score for *Venture Capital Access* jumps from the subsample mean of 1.53 to 2.35 ($1.53 + (0.04 \times 20.45) = 2.35$). This increase raises a country's rank about eight levels in this group.

The NBR estimate of *Remittances* for *New Business Creation* in column 6 (20.45) is interesting not merely because it supports Hypothesis 2's prediction that immigrant money and ideas abroad enhance home-country business creation. Recall that this subsample comprises countries with official business registries that almost certainly undercount the actual number of new business starts. Thus even an estimate of this magnitude still understates the actual impact of immigrant money and ideas on rates of new business creation. Along with results in columns 4–5, these column 6 results suggest that immigrant remittances may have an even more pronounced positive impact on the venture investment environment of some of the least developed countries. And results across Table 9.5 add confidence to a critical framework assumption that immigrant remittances are causing rather than reflecting enhancement of the venture investment environment.

Multivariate Regression Results: Moderator Effects (Hypotheses 4–5)

Results from multivariate regression analyses of moderator effects related to Hypotheses 4–5 are presented in Table 9.6. Columns 1–4 of Table 9.6 presents results from estimating the impact of *Remittances* on different indicators of the venture investment environment after inclusion of individual and interaction terms related to immigrant skill level. Consistent with Hypothesis 4 and recent research findings in this journal (Madhavan & Iriyama, 2009), I expect the $IS \times Remittances$ interaction term to enter positively, thus indicating that remittances from better-educated immigrants have a stronger positive impact on the venture investment environment back home. $IS \times Remittances$ does not enter at commonly accepted levels of statistical significance for *New Business Creation* and *Economic Internationalization* in columns 3–4.¹⁶ Consistent with Hypothesis 1, however, I find that $IS \times Remittances$ is positive and statistically significant at the 1% level for *General Capital Access* column 1 (1.34). Highly educated immigrants remit money and ideas that have a more positive impact on general home-country capital availability.

To understand the practical impact of this result, I simulate the net effects of remittances from immigrant communities that are and are not highly educated. I set *Remittances* at its sample mean (0.10) and then multiply it by its coefficient in column 1 (-0.76) ($-0.76 \times 0.10 = -0.08$). When $IS \times Remittances$ is set to 0—immigrants from country i and region j are not highly educated—the net effect is a slightly lower index score and a decrease of approximately one rank. If the immigrants are highly educated then I add the $IS \times Remittances$ coefficient ($-0.08 + 1.34 = 1.26$) and change the net effect from a slight decrease to substantial increase of 25 ranks.

For *Venture Capital Access* in column 2 the individual and interaction terms yield just the opposite set of effects, contrary to Hypothesis 4. *Remittances* exhibits a positive sign, implying slightly enhanced venture capital availability in immigrants' home countries. But the interaction term, $IS \times Remittances$, enters negatively (-2.76) at commonly accepted levels of statistical significance. For countries with highly educated

immigrants, the net effects turn sharply negative ($0.06 - 2.76 = -2.70$). The decrease in index score implies a drop of 35 ranks. These results not only contradict Hypothesis 4 but also challenge the notion that transnational technical communities (Madhaven & Iriyama, 2009) or other educated elites enjoy broad-based advantages in transferring money and ideas home for entrepreneurial purposes. Alternative cross-country connections based on clan or community may matter more.

Columns 5–8 of Table 9.6 present results related to one such community attribute, the concentration of that community across various host countries. Hypothesis 5 predicts a positive sign on the interaction term, $IC \times Remittances$. More concentrated immigrant communities are more likely to create institutions and conventions to decrease transaction costs and increase knowledge associated with cross-country transfers of venture funds and ideas back home. Results related to that prediction are mixed. The interaction term is not statistically significant at commonly accepted levels for *General Capital Access* in column 1 but, in line with Hypothesis 5, $IC \times Remittances$ is positive, statistically significant and practically substantial for *Venture Capital Access* in column 2 (2.75). Individually, *Remittances* enters without statistical significance at commonly accepted levels. This suggests that immigrants scattered about the globe are also remitters less able or willing to risk sending venture capital back home. But when that community is highly concentrated, *Venture Capital Access* index increases by 2.75, which takes a country at the bottom of the index to the mid-range and a midrange country to the top ranks.

Interestingly, the magnifying effect of concentration extends neither to business starts nor to trade openness. The net effects of *Remittances* and $IC \times Remittances$ for *Economic Internationalization* in column 8 are more intuitively grasped than more complex simulation required for *New Business Creation* in column 7.¹⁷ In column 8, a positively signed and statistically significant *Remittances* term alone (0.45) captures net effects for countries with immigrant communities that are not highly concentrated. With *Remittances* set at its sample mean, the coefficient implies increased trade openness of 4.5 percentage points ($100\% \times (0.10 \times 0.45) = 4.50\%$). In a highly concentrated immigrant community, however, the net effect is reversed from modest gain to sharp drop in trade openness of

Table 9.6 Regression analyses of remittances and venture investment environment indicators with immigrant skill moderator (columns 1–4) and immigrant concentration moderator (columns 5–8), 2002–2007^a

Variables	Estimators							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant (α)	-1.70** (0.50)	-5.27** (1.26)	-13.22** (1.48)	3.08** (0.20)	-1.76** (0.56)	-6.43** (0.54)	-11.89** (1.51)	2.64** (0.21)
Economic Size (λ_1)	0.20** (0.02)	0.25** (0.06)	0.88** (0.06)	-0.11* (0.01)	0.20** (0.02)	0.30** (0.06)	0.82** (0.07)	-0.09** (0.01)
Economic Growth (λ_2)	-0.01 (0.01)	-0.02 (0.02)	0.04* (0.02)	0.00* (0.00)	-0.01 (0.01)	-0.02 (0.02)	0.03† (0.02)	0.00† (0.00)
Per Capita Income (λ_3)	0.11** (0.02)	0.09** (0.04)	-0.19** (0.03)	0.03** (0.00)	0.07** (0.02)	0.14** (0.05)	-0.19** (0.03)	0.03** (0.00)
Inflation (λ_4)	-0.01** (0.00)	-0.00 (0.00)	0.01 (0.01)	0.00** (0.00)	-0.02** (0.00)	-0.00 (0.00)	0.01 (0.01)	0.00** (0.00)
Common Law (λ_5)	0.87** (0.10)	0.18 (0.14)	0.53* (0.27)	0.10** (0.03)	0.83** (0.08)	-0.13 (0.21)	0.97** (0.31)	0.13** (0.03)
Rule of Law (λ_6)	0.40** (0.10)	0.18 (0.16)	0.69** (0.18)	0.11** (0.02)	0.52** (0.10)	0.10 (0.17)	0.60** (0.18)	0.12** (0.02)
Political Rights (Lack of) (λ_7)	-0.03 (0.02)	-0.26** (0.04)	0.02 (0.06)	0.01 (0.01)	-0.03 (0.02)	-0.26** (0.05)	-0.01 (0.06)	0.00 (0.01)
FDI Inflow (λ_8)	0.00 (0.00)	-0.00 (0.00)	0.07** (0.02)	-0.00** (0.00)	0.00 (0.00)	-0.01* (0.01)	0.07** (0.02)	-0.00** (0.00)
State Share of Economy (λ_9)	0.03** (0.01)	0.10** (0.02)	0.06** (0.02)	0.01** (0.00)	0.03** (0.01)	0.11** (0.02)	0.04** (0.02)	0.00* (0.00)
Remittances (β_1)	-0.76** (0.18)	0.58* (0.30)	2.28† (1.36)	0.31** (0.08)	0.93** (0.14)	-1.38 (0.92)	5.89** (1.59)	0.45** (0.06)
SSE x Remittances (β_2)			-0.13 (0.09)				-0.36** (0.10)	
Immigrant Skill/Concentration (ϕ_1)	-0.13† (0.07)	0.38** (0.18)	-0.20 (0.13)	0.06** (0.02)	0.22† (0.13)	-0.03 (0.22)	-0.17 (0.15)	0.19** (0.03)

(continued)

Table 9.6 (continued)

Variables	Estimators							
	Controls, remittances							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>IS/IC</i> ×	FGLS, GCA	FGLS, VCA	NBR, NBC	FGLS, EI	FGLS, GCA	FGLS, VCA	NBR, NBC	FGLS, EI
	1.34** (0.30)	-2.76** (1.20)	-0.76 (0.86)	0.24 (0.18)	-1.12 (0.47)	2.75** (1.09)	-1.87** (0.75)	-0.53** (0.12)
Remittances (ϕ_2)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Years (ξ_{1-5}) and Regions								
(ν_{1-5})								
<i>N</i>	348	304	209	348	348	304	209	348
Wald χ^2	3190.07**	3315.24**	1755.24**	1814.45**	2588.38**	2202.71**	1735.65**	2724.58**

^aColumns 1–8 report regression coefficients and robust standard errors (in parentheses). FGLS refers to panel-feasible generalized least squares estimation with robust Huber–White sandwich standard errors and panel (country) specific first-order autoregressive process. NBR refers to negative binomial regression estimation with robust Huber–White sandwich standard errors. Significant NBR two-way interaction term sign confirmed at the 1% level following Zellner (2009). GCA, VCA, NBC and EI refer to *General Capital Access*, *Venture Capital Access*, *New Business Creation* and *Economic Internationalization* as dependent variables. *SSE*, *IS* and *IC* refer to *State Share of Economy*, *Immigrant Skill* and *Immigrant Concentration*. Columns 1–4 report results with *Immigrant Skill* terms while columns 5–8 report results with *Immigrant Concentration* terms. Regression results for region and year dummies are available on request.

** $p < 0.01$; * $p < 0.05$; [†] $p < 0.10$.

48.5 percentage points ($100\% \times [(0.10 \times 0.45) - 0.53] = -48.5\%$). Geographic concentration of immigrant communities apparently increases the positive impact of their remittances for venture funding only, begging questions about why the same community attribute does not magnify the positive impact of remittances on venture founding and growth through internationalization. Answers to these questions are beyond the scope of this particular study, but they suggest the need for more refined theorizing about how and why immigrant remittances shape the home-country venture investment environment.

Discussion

Key Results and Implications

If the basic questions motivating this study are whether and how remittances from developing-country immigrants might alter the home-country venture investment environment, then the results above suggest some novel, theoretically grounded and empirically supported answers. Perhaps most importantly, my results suggest that immigrants and their remittances enhance the development of vital entrepreneurial building blocks in immigrants' home countries. Remittances are directly associated with enhanced availability of capital to invest in new businesses, with enhanced rates of new business start-ups (unless crowded out by the state), and with enhanced internationalization of the broader economy. Far from remittances serving merely as subsistence assistance to desperately poor, sick and/or uneducated family and friends, I find evidence that they serve as a critical source of money and ideas for developing-country entrepreneurs. If this is true, then developing-country immigrants also play roles as transnational venture investors, firm founders and agents of business expansion in a context where other players are reluctant to act.

These core findings have important implications for IB and entrepreneurship research (Guler & Guillén, 2010; Madhavan & Iriyama, 2009) that has recently reminded us that venture capital money and ideas flow

more easily overseas when recipient countries cultivate stronger property rights protections and more stable investment policies, and when educated immigrant networks connect donor and recipient countries. This view complements other IB and entrepreneurship research (Ahlstrom & Bruton, 2006; Bruton, Ahlstrom, & Obloj, 2008; Wright, Westhead, & Ucbasarana, 2007; Zahra, 2005) noting that a dearth of new venture financing and know-how undermines business development, economic growth and broader institutional modernization of many developing countries. Indeed, these countries face a “Catch 22” problem, where institutional shortcomings deter standard (to IB and entrepreneurship research) venture investment flows, which are, in turn, vital to upgrading institutions necessary for faster economic growth.

The theoretical framework and empirical results presented here suggest a way to deal with this Catch 22 problem. TCE and social knowledge theories suggest that developing-country immigrants are well positioned to risk the transfer of money and ideas, given informal ties related to shared clan and community membership. The lack of advanced education or technical training does not appear to undermine this positioning for venture funding purposes. Indeed, greater concentration of immigrants abroad may very well strengthen that positioning. Immigrants and their remittances can play important roles in early-stage venture funding in less-developed countries with scarce capital.

Along with the framework and these basic findings, I highlight the research contribution of this study’s scope. I examine support for aspects of my theoretical framework across several countries and years. Most previous studies on immigrant remittances and entrepreneurship have focused on a single country. My study broadens that scope using novel panel data analytics, thus permitting closer control of specific country and time effects, and thus permitting broader inference from results.

My study also contributes to research in economic development and public policy. While understanding the impact of immigrant remittances on home-country venture investing may be a new line of inquiry for IB and entrepreneurship scholars, investigation of immigrant remittances and their impact on economic development is not new elsewhere in the Academy. Brown (2006) surveys evidence both consistent with and contrary to the proposition that remittances contribute positively to economic

development. He concludes that remittances do contribute positively when recipient countries have in place other prudent macroeconomic policies designed to prevent local currency over-appreciation and promote easier financial transfers and communication. In this broader research context, my theoretical framework and empirical findings detail a likely path by which remittances lead to such positive development outcomes. The path is circular. Money and ideas from immigrants abroad find their way home for use in new business development that then often reaches back overseas. It is part of a transnational entrepreneurship (Drori et al., 2009; Portes et al., 2002) process apparently affecting immigrants of varied backgrounds.

Finally, findings reported here have practical implications for entrepreneurs in developing countries searching for appropriate partners to fund, found and grow new ventures. These entrepreneurs can look abroad for investors with the same passport and home town, as well as a similar ethnic and family background. They represent a growing source of “smart” money ready to flow back home with less concern about possible misuse. Governments seeking to promote more entrepreneurial activities at home will likely benefit from developing the capacity to engage immigrant communities abroad. As Gamlen (2008) and others (World Bank, 2006) have pointed out, strategic investments in engagement capacity such as consular facilities and services might help increasingly large, wealthy and investment-oriented immigrant communities re-connect with their home countries.

Limitations and Future Research

This study has strengths, but also limitations. Theoretically, it provides substantial grounding in TCE and social knowledge perspectives, but this grounding could benefit from closer integration with existing concepts and theories explaining why entrepreneurs go abroad to fund, found and expand new ventures in their home countries. I see value in closer integration of my research with transnational entrepreneurship concepts (Drori et al., 2009; Portes et al., 2002). Perhaps the conceptual and then empirical challenge here will be to articulate and then operationalize

different classes of transnational entrepreneurs based on differing levels of wealth, education and home-country connection to specific clans and communities. Certain theories show promise for this closer integration. Zahra (2005) highlights the importance of networks for understanding why certain new international ventures succeed and others fail. The success of remittance-based ventures in an immigrant's home country may be explained similarly. Perhaps future research should articulate a "remittance network" theory of informal entrepreneurship. That theory could map the path of money and ideas, the frequency with which they pass through certain individuals and institutions in host and home countries, and then their effectiveness in funding and founding new ventures in an immigrant's home country.

I analyzed associations between immigrant remittances and different indicators of the home-country venture investment environment for 61 developing countries from 2002 to 2007. Yet it is a single study awaiting confirmation or disconfirmation by others in the future. I chose not to sample prior to 2001. That was driven in part by the expectation of better-quality data with less measurement error in more recent (post-2000) years. As such data increase in the future, researchers will also have more estimation power. This advantage may be particularly helpful with dynamic panel estimations, where short time-series with high inter-temporal correlations may lead to underestimates of standard errors. Future researchers will also have other opportunities to improve on estimation strategies I used. One way I addressed the possibility of reverse causality between remittances and venture investing outcomes was to use dynamic panel estimation generating plausibly exogenous instruments based on lagged values of different variables (Arellano & Bover, 1995; Blundell & Bond, 1998). While diagnostic (Sargan) tests do not reject the presumption of instrument exogeneity as a whole, I cannot conclude that these instruments are the best available. Future work should search for alternative instrument sets correlated with remittances but not the venture-investing outcomes that I propose remittances affect.

I analyzed differences in the venture investment impact of remittances linked to individual and collective characteristics of immigrants. These analyses could start a broader research project aimed at understanding individual, group and broader institutional factors in the home and host

countries of immigrants. The impact of remittances on the venture investment environment might be enhanced when developing countries invest more resources in immigrant community engagement policies: passing dual citizenship laws; liberalizing expatriate investment regulations; building and staffing more consulates abroad. Remittances could also have a greater impact as the prevalence of financial institutions important to remittance payout increases in home countries. This second conjecture might seem trivial, since Guler and Guillén (2010) have already recorded that venture investment business activity decreases in countries with poor financial infrastructure. As I noted earlier, however, remittance-based venture investment is almost certainly less sensitive to poor institutional development. A rather low threshold of home-country bank access may permit remittances to be paid out in quantities sufficient to enhance venture investment activities substantially.

Future research can look more closely at broader patterns revealed in my study. Remittances can be disaggregated into components related to resident workers' remittances, compensation of nonresident employees and migrant asset transfers. Established residents overseas may be in a better position to generate capital to fund new ventures back home, whereas more transient non-residents may be better positioned to transfer venture ideas to the home country for implementation as business start-ups. This conjecture suggests that the workers' remittances component of overall remittances may have a greater impact on home-country venture funding availability. The remittance component related to compensation of non-resident employees may have greater impact on home-country new business starts. Future research might also disaggregate the types of venture capital derived from remittances. For example, I see value in understanding how remittances affect the availability of debt vs equity to fund new businesses in developing countries. Such follow-on research would complement public policy efforts to understand how remittances affect access to finance more generally (Beck & Demirgüç-Kunt, 2008; Desai, Kapur, & McHale, 2004).

Other limitations relate to the equation specification, which assumes that remittances have only direct individual and indirect moderator effects on various indicators of the home-country venture investment environment. It may be that the effects of remittances on

developing-country venture investing are not so much moderated as they are mediated by other factors. Inward FDI is a likely candidate for such mediation, particularly in more developed emerging-market countries with burgeoning investment inflows.

Later studies might develop and test other aspects of the theoretical framework proposed here. This study documented remittance trends consistent with attributes of developing-country immigrants assumed but not yet documented in broad sample studies. Future research should analyze directly immigrant attitudes toward risk and investment back home. Such research will benefit from taking an organizational behavior perspective on individual immigrant attributes, as well as from entrepreneurship scholars taking a larger organizational theory perspective on immigrant networks. These and other avenues of future research should provide further insight into the growing role of developing-country immigrants as venture investors.

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Notes

1. The World Bank (World Bank, 2006: 106–107) IMF definitions for these three components. The first and usually largest component, workers' remittances, is current private transfers from migrant workers considered residents of the host country to recipients in their country of origin. If migrants live in the host country for a year or longer, they are considered residents, regardless of their immigration status. If migrants have lived in the host country for less than a year (and are not students, diplomats, military personnel, medical patients, tourists, etc.) their income becomes part of a second and usually smaller component, compensation of employees. The third component is also usually the smallest: migrant transfers are offset entries in the balance of payments to the provision of a resource such as grants and gifts in kind or financial form. For more on remittance accounting and compilation methods and issues, see IMF (2009), Nyberg-Sørensen (2004), Reinke (2007) and World Bank (2006).
2. Measuring the flow of social remittances to developing countries is more difficult than measuring financial remittances, which organizations such as the World Bank have been measuring across countries since the late 1990s. For the purposes of this study I assume that social and financial remittances flow together, and often use the term “remittances” to refer to both flows. In measurement for empirical study, we use financial remittances to proxy for social remittances as well.
3. For example, survey evidence reported by Amue-do-Dorantes, Bansak, and Pozo (2004) indicates that Mexican immigrants in the US use the largest share of remittances to defray health expenses (46.18%), followed by expenses for food and maintenance (29.79%), home construction and repair (7.47%), debt repayment (5.42%), and consumer purchases (4.46%). According to their survey, less than half a penny of every remittance dollar (0.46%) goes to starting or expanding a business.
4. Despite the prominence given to remittances from developed countries, so-called “South-South” financial remittances make up from 30% to 45% of total financial remittances received by developing countries in the mid-2000s. The growing importance of South-South remittances reflects the fact that over half of migrants from developing countries now migrate to *other* developing countries (World Bank, 2006: xiii).

5. World Bank data indicate a steady rise in recorded remittances worldwide, from approximately \$25 billion in 1990 to nearly \$100 billion in 2000. That figure approximately tripled to \$300 billion by 2007. Recorded remittances flowing through standard commercial conduits capture from 50% to 60% of total (recorded and unrecorded) remittance estimates since the 2000s (Moneygram, 2010). For more on efforts to improve remittance accounting and compiling, see IMF (2009), Nyberg-Sørensen (2004), Reinke (2007) and World Bank (2006).
6. Aggarwal et al. (2010) have recorded that remittances promote similar trends in banking system depth and breadth for Mexico and 106 other developing countries observed from 1975 to 2007.
7. Fafchamps (2001) explains contracting patterns in sub-Saharan African countries without effective third-party (court) enforcement similarly. In these settings, informal relationships based on common clan or community membership can signal reliability as a trading partner. If the costs of cheating are high enough, then contracts are self-enforcing. Relationships serve as their own surety of contractual performance.
8. These 61 countries are Argentina, Armenia, Bangladesh, Bolivia, Botswana, Brazil, Cambodia, Cameroon, Chile, China, Colombia, Costa Rica, Croatia, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, Ghana, Guatemala, Haiti, Honduras, India, Indonesia, Jamaica, Jordan, Kenya, Latvia, Lebanon, Lithuania, Macedonia, Madagascar, Malawi, Malaysia, Mali, Mexico, Moldova, Mongolia, Morocco, Mozambique, Nicaragua, Oman, Pakistan, Panama, Paraguay, Peru, Philippines, Romania, Russia, Senegal, South Africa, Sri Lanka, Thailand, Togo, Tunisia, Turkey, Uganda, Ukraine, Venezuela, Vietnam and Yemen.
9. See Docquier and Marfouk (2006) for details of their data collection and compilation methods. Six non-OECD countries included in their analyses of census and registration data are the Czech Republic, Hungary, Mexico, Poland, Slovakia and South Korea. In my sample, developing countries more vulnerable to underestimation of immigrant skill level, given more pronounced South–South migration patterns, include Bangladesh, Botswana, Egypt, Jordan, Namibia, Pakistan and Yemen. Results including *Immigrant Skill* terms in Eq. (9.1) (Table 9.6) are robust to exclusion of these countries. Results excluding these countries are available from the author.

10. All 61 countries are sampled and analyzed in columns 1–4 (*General Capital Access*) of Table 9.3. Two of these 61 countries, Togo and Yemen, are dropped from the sample analyzed in columns 5–6 (*Venture Capital Access*) of Table 9.3.
11. The 45 countries sampled and analyzed in columns 1–5 of Table 9.4 are Argentina, Armenia, Bangladesh, Bolivia, Botswana, Brazil, Chile, Colombia, Croatia, Ecuador, Egypt, El Salvador, Ghana, Guatemala, Haiti, India, Indonesia, Jamaica, Jordan, Kenya, Latvia, Lebanon, Lithuania, Madagascar, Malawi, Malaysia, Mexico, Moldova, Morocco, Nicaragua, Oman, Pakistan, Philippines, Romania, Russia, Senegal, South Africa, Sri Lanka, Tanzania, Thailand, Tunisia, Turkey, Uganda, Ukraine and Yemen.
12. A related slope test available in Zelner's (2009) *intgph* program confirms contrasts illustrated in Figure 9.3. Using his slope test, I confirm that the changes in new business counts one standard deviation below and above the sample mean for *State Share of the Economy* are significantly different at the 1% level. This result is available from the author.
13. The 59 countries sampled and analyzed in columns 1–4 (*Economic Internationalization*) of Table 9.5 are Argentina, Armenia, Bangladesh, Bolivia, Botswana, Brazil, Cambodia, Chile, China, Colombia, Costa Rica, Croatia, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, Ghana, Guatemala, Haiti, Honduras, India, Indonesia, Jamaica, Jordan, Kenya, Latvia, Lebanon, Lithuania, Macedonia, Madagascar, Malaysia, Mali, Mexico, Moldova, Mongolia, Morocco, Mozambique, Nicaragua, Oman, Pakistan, Panama, Paraguay, Peru, Philippines, Romania, Russia, Senegal, South Africa, Sri Lanka, Thailand, Togo, Tunisia, Turkey, Uganda, Ukraine, Venezuela, Vietnam and Yemen.
14. The 61 countries sampled and analyzed in columns 1 and 3 (*General Capital Access* and *Economic Internationalization*) of Table 9.5 are the same as previously analyzed in Tables 9.3 and 9.4. The 59 countries sampled and analyzed in column 2 (*Venture Capital Access*) of Table 9.5 are the same as previously analyzed in Table 9.3.
15. The 29 countries sampled and analyzed in columns 4 and 7 (*General Capital Access* and *Economic Internationalization*) of Table 9.5 are Armenia, Bangladesh, Bolivia, Cambodia, Cameroon, Egypt, Ethiopia, Ghana, Haiti, Honduras, Indonesia, Kenya, Madagascar, Malawi, Mali, Moldova, Mongolia, Moldova, Mozambique, Nicaragua, Pakistan,

- Paraguay, Philippines, Senegal, Sri Lanka, Tanzania, Togo, Uganda, Ukraine and Yemen. The 24 countries sampled and analyzed in column 5 (*Venture Capital Access*) of Table 9.5 are Bangladesh, Bolivia, Cambodia, Egypt, Ethiopia, Ghana, Haiti, Honduras, Indonesia, Kenya, Madagascar, Malawi, Mali, Moldova, Mongolia, Mozambique, Nicaragua, Paraguay, Philippines, Senegal, Sri Lanka, Tanzania, Uganda and Ukraine. The 15 countries sampled and analyzed in column 6 (*New Business Creation*) of Table 9.5 are Armenia, Bangladesh, Ghana, Haiti, Indonesia, Kenya, Madagascar, Moldova, Pakistan, Philippines, Senegal, Tanzania, Uganda, Ukraine and Yemen.
16. Results from simulation of different two-way interactions based on Zelner's (2009) *intgph* program confirm trends implied by the insignificant coefficient sign for $IS \times Remittances$ presented in column 3 of Table 9.6: increasing immigrant skill does not significantly increase new business creation effect of remittances as Hypothesis 4 holds. These simulation results are available from the author.
 17. Results from simulation of different two-way interactions based on Zelner's (2009) *intgph* program confirm trends implied by the significant ($p < 0.01$) coefficient sign for $IC \times Remittances$ presented in column 7 of Table 9.6: increasing geographic concentration of immigrants abroad decreases (not increases as Hypothesis 5 holds) the new business creation impact of remittances. These simulation results are available from the author.

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