The Role of Entrepreneurial Networks in the Exploration and Exploitation of Internationalization Opportunities by Information and Communication Technology Firms

Elena Vasilchenko and Sussie Morrish

ABSTRACT

This article investigates the role of entrepreneurial social and business networks in the internationalization of high-technology firms. The authors present case study evidence from born-global information and communication technology firms that shows that established and newly formed social networks can be instrumental in exploring internationalization opportunities. These social networks potentially lead to collaborative cooperation and form part of an entrepreneur’s broader business network that facilitates exploitation of internationalization opportunities culminated by successful entry into foreign markets. The study incorporates contemporary literature and offers an internationalization opportunity exploration-exploitation model emanating from the entrepreneur’s network configuration. In doing so, it takes a process approach and provides much needed qualitative evidence in network research.

Keywords: entrepreneurial networks, internationalization, born global, information and communication technology firms

In the current global environment, leveraging social and business contacts has become essential in exploring and exploiting prospects for growth and success in the marketplace. Today’s fast-paced business cycles create windows of opportunities that do not stay open for long, and thus early internationalization becomes imperative (Sapienza et al. 2006), especially for smaller born-global firms (Freeman et al. 2010). In these situations, even the most alert and flexible companies may find it difficult to move with the speed required to take full advantage of opportunities without the assistance of networks in the marketplace. To execute strategies effectively, firms may increasingly need to rely on networks, consisting of multitudes of people and organizations to create innovation and commercialize products to international markets (Coviello and Munro 1995, 1997; Elfring and Hulsink 2003; Kelly 2000). Networking, sometimes facilitated by international trade shows (Evers and Knight 2008; Shoham 1999) and various industry events, is especially important for small and medium-sized enterprises (SMEs) considering that they are often significantly resource constrained to take full advantage of new opportunities in the marketplace.

Hoang and Antoncic (2003) review 15 years of research into the consequences of networks in new ventures and SMEs and find that though extensive work has been done on network relationships, governance, and struc-
tured, a more process-oriented investigation is yet to emerge. A recent and timely response to this is Slotte-Kock and Coviello’s (2010) process-focused review, which offers a theoretical framework for investigating networks as a developmental outcome using multiple perspectives. Networking could substantially improve the ability of small companies to quickly explore and exploit opportunities, thus improving their competitiveness and, by the same token, their likelihood of survival. A better understanding of how networks affect processes such as internationalization therefore would be useful in theory and practice. This article investigates the role of networks (both social and business) in facilitating the internationalization of high-technology firms. More specifically, the focus of the research is on how information and communication technology (ICT) firms use networking as they pursue internationalization opportunities and eventual globalization. The success of ICT firms depends largely on their ability to innovate and commercialize new product offerings. The very nature of the industry means that firms operate in an extremely competitive environment that is subject to continuous and disruptive innovations and characterized by exceptionally short product life cycles with constant product updates and upgrades. Therefore, success is embedded not only in the firm’s ability to develop innovative products or services but also in the speed at which the firm commercializes these innovations.

Although domestic markets may be important as a launching platform for new market offerings, firms that operate in this sector often need to commercialize on a global scale. Doing so usually requires the efficiency and effectiveness of commercialization strategies. Literature from more than a decade of empirical research on internationalization patterns experienced by technology firms indicates that a majority of ICT firms are built with a global focus from inception (Coviello and Munro 1995; Litvak 1990). Regardless, many firms are often disadvantaged by the lack of internal resources necessary to roll out global product commercialization. However, such firms are able to circumvent these challenges by networking with people and organizations that, in turn, become important sources or providers of resources necessary for fast and early commercialization of innovative products to the global marketplace. These networks, largely driven by the entrepreneur or founder (O’Donnell et al. 2011), are often dynamic in nature and change considerably over time to align the network with the environment (Slotte-Kock and Coviello 2010), after which time (e.g., entering a new market) the focal firm shifts directions.

Given this foundation, it is important to understand how and which networks are used by entrepreneurs to enable international commercialization of their firms’ innovation; this is the focus of the study. We investigate four cases of New Zealand born-global ICT firms, with particular focus on how high-technology firms use networking and then integrate these activities into their strategies to commercialize products to the global marketplace.

This work contributes to the literature by offering an internationalization model that reflects how social and business networks facilitate the processes of exploration and exploitation of internationalization opportunities. This approach addresses Hoang and Antoncic’s (2003) plea for more qualitative investigation into network research with a process focus (Slotte-Kock and Coviello 2010).

**BACKGROUND LITERATURE**

Although a founder’s previous work experience has been suggested as one of the most important influences of new business success (Cooper 1981), it may not necessarily be sufficient if a new venture wants to internationalize quickly. In general, experience is considered an asset especially when founders have built up managerial and other competencies. However, Starr and Bygrave (1991) argue that entrepreneurs could suffer from what they refer to as the liability of “sameness” when they start a new venture. This may occur with overconfidence such as when the entrepreneur is reluctant to change from a past successful strategy even if the conditions have changed. In contrast, Vesper (1980) argues that start-up experience not only acts as a proxy for skills and competencies but also enables the building of network contacts.

In the context of internationalization, an effective use of networks enables companies to overcome barriers, such as relatively small company size, lack of internal resources, and distance from international markets, to both innovate and execute on the global stage, creating increased export revenues (Chetty and Wilson 2003; Kelly 2000; Oviatt and McDougall 1994). Research has identified that for SMEs and entrepreneurial companies, the ability to create and use networks can facilitate product commercialization across international markets (Chetty and Wilson 2003; Coviello and Munro 1997), effectively enabling them to compete in the global marketplace (e.g., Freeman et al. 2010). Within the ICT sector, consisting largely of SMEs that develop
and commercialize their own technology products, global commercialization is viewed as a necessary imperative, rather than a matter of choice (Crick and Spence 2005; Smallbone and North 1995). Moreover, unique contexts make it crucial for technology firms to initiate global commercialization shortly after inception (Bell, McNaughton, and Young 2001; Litvak 1990). Alahuhta (1990) suggests that the product strategy of most high-technology firms is generally based on an innovative product offering right from the start that is developed in response to an identified global need, thus the need to move quickly to develop international markets. This problem is amplified for small technology companies because they are constantly confronted by new products and technologies that often emerge in global markets spearheaded or backed by large, well-resourced, multinational companies, resulting in short product life cycles. This poses huge challenges to firms operating in the industry. Consequently, it is essential for high-technology companies to push global product volumes from inception before innovative offerings reach obsolescence and while demand has not been replaced by yet another disruptive innovation (Bell, McNaughton, and Young 2001; Litvak 1990). For these high-technology companies (with a global focus from inception), survival often largely depends on how quickly they enter international markets (Bell, McNaughton, and Young 2001; Litvak 1990; Smallbone and North 1995). This makes high-technology firms different from other companies whose fundamental reason for developing international markets is to grow and increase profitability. The question therefore is not whether high-technology firms should commercialize their innovation to a global scale but rather how best to go about it.

Extant network literature provides a significant and rich base to gain insight into how firms access global markets and enable effective product commercialization across them. Indeed, Elfring and Hulsink (2003) argue that networks are widely recognized as an important aspect of internationalization success. Coviello and Munro (1995) propose that networks play a significant role in many managerial strategic decisions, such as market selection and entry. In line with this view, McDougall, Shane, and Oviatt (1994) show that networks help founders of international new ventures or born-global firms identify international business opportunities and that these networks seem to have more influence on the founder’s choice of countries than the psychic distance from the home country. There is compelling argument therefore that networks can be an effective vehicle through which global commercialization of innovation is enabled, first through access to international markets and second by being the means through which firms are better positioned to identify and respond to potential opportunities in the global marketplace. This being said, there are different types of networks that entrepreneurial firms can tap. In the literature and in practice, these are often classified into social and business networks.

**Social and Business Networks**

In general, networks consist of a set of actors linked by some set of relationships (Hoang and Antoncic 2003) and can be broadly classified into social or business networks. Social networks involve those that are developed from personal relationships, whereas business networks are those that involve some form of repeated economic exchange. We discuss both types of networks in the following sections.

In the context of entrepreneurship literature, Gilmore and Carson (1999, p. 31) define social networks as “a collection of individuals who may or may not to be known to each other and who, in some way contribute something to the entrepreneur, either passively, reactively or proactively whether specifically elicited or not.” The role of social networks in the process associated with global commercialization of innovation is supported by social network theory, which is based on the assumption that it is impossible to comprehensively examine economic exchange without investigating the social context in which it is embedded (Granovetter 1985). Indeed, Mainela (2002) argues that because organizational behavior is built around the actions of the people who act on behalf of the organization, social relationships inevitably become involved in business practices. Early research on social networks was developed within the boundaries of entrepreneurship research but has since gained popularity among scholars and been applied to internationalization research.

A network has a central figure, which can be either an individual or an organization. Thus, the development of organizational networks may be orchestrated or driven by an individual (or a team), and the boundaries between the individual and the organization may be difficult to define. In the context of this article and consistent with literature, the key driver of the global product commercialization process of small high-technology firms is often the entrepreneur (Knight and Cavusgil 1996; Oviatt and McDougall 1994, 1997).
An entrepreneur’s network has the potential to significantly influence the internationalization route of the firm, particularly in the earlier stages of global commercialization when networks are used to gain information about foreign business opportunities or potential international business partners (Johanson and Vahlne 2003). In addition, Coviello and Munro (1997) find that location is an important consideration, given that entrepreneurs may rely on their social networks when choosing international markets based on the network’s location. The uncertainties associated with entering a new market could be reduced if the entrepreneur can access local market information from personal or business contacts.

Despite the dominant use of social network theory to explain rapid internationalization patterns of entrepreneurial firms, the role of business relationships has also been highlighted in the literature. From a marketing perspective, Anderson, Hakånsson, and Johanson (1994, p. 2) define business networks as “a set of two or more connected business relationships, in which each exchange relation is between business firms that are conceptualized as collective actors.” These actors often include competitors, suppliers, customers, distributors, and government (Axelsson and Johanson 1992; Sharma and Johanson 1987). Unlike social networks in which the “actors” are informally linked to each other (O’Donnell et al. 2001), business networks constitute goal-oriented cooperation among two or more firms involving a mutual exchange of resources and/or concerted efforts to resolve problems by entering into formal agreements (O’Donnell et al. 2001).

The use of networks through the establishment of long-term relationships is instrumental in a firm’s development of international business activities. As firms expand into foreign markets, business networks can facilitate the acquisition of experiential knowledge about international markets and therefore can be strongly relied on, especially during the international opportunity exploitation stage (Eriksson and Johanson 1997). The importance of networks has been highlighted in investigations into the internationalization of entrepreneurial but resource-constrained firms, which view networks as an answer to the common barriers of foreign market entry (Chetty and Wilson 2003).

High-technology firms, which are often smaller entrepreneurial firms, rarely possess all the necessary skills, knowledge, and resources needed to successfully enter and sustain a competitive position in foreign markets (Crick and Spence 2005), and their size limits their ability to influence or control external factors. To overcome such limitations, networking could offer a useful alternative strategy that helps minimize these inherent weaknesses. In particular, relationships with customers, suppliers, and other business partners are considered crucial when introducing a new product to foreign markets. Face-to-face encounters with business partners, clients, and business representatives allow internationalizing firms to get a feel for the market, gain insight into how business is conducted there, demonstrate interest, and begin building trust (Blomstermo and Sharma 2003; Wilson and Mummalaneni 1990). Business networks can also speed internationalization by providing synergistic relationships with other firms that complement their resources at various stages in the value chain (Jones 1999; Nummela 2002).

Network Theory and International Entrepreneurship Interface

Although marketing scholars have recognized the significance of networks (Anderson, Hakånsson, and Johanson 1994; Sharma and Johanson 1987), network research has received more attention in both international business (e.g., Axelsson 1992; Bartlett and Ghoshal 1991; Forsgren 1989; Johanson and Mattsson 1988) and entrepreneurship (e.g., Aldrich and Zimmer 1986; Larson and Starr 1993). Analysis of networks later received attention among international entrepreneurship researchers that emphasized the value of network theory in the search for an explanation for the accelerated internationalization of some firms. In particular, several researchers have put forth calls to draw on network theory in international entrepreneurship (Bell 1995; Coviello and Munro 1995, 1997; Oviatt and McDougall 1994). Relevant works include Bell’s (1995) comparative study of export behavior among entrepreneurial software firms and Johanson and Vahlne’s (2003) network model that calls specifically on international entrepreneurship researchers to integrate network theory into existing theories of firm internationalization. Strong international business networks have also been identified by Oviatt and McDougall (1995) as one of the most important characteristics of successful global start-ups. In their work on new venture internationalization theory, Oviatt and McDougall (1994) argue that the existence of network structures is one of the most powerful resource-conserving alternatives to internationalization. Given this argument, it is implied that firms must not only engage in network activities but also “align the network with the environment over time at points where the focal firm shifts direction” (Slotte-Kock and Coviello 2010, p. 51) and use...
networks such that they fully benefit from them (Johanson and Mattsson 1988; O’Farrell and Wood 1999). These benefits may include, among others, greater prospects for identifying global opportunities for a particular innovation and enhanced access to resources needed to enable entry into international markets (Blomqvist 2002; Chetty and Wilson 2003; Elfring and Hulsink 2003; Kelly 2000).

Insufficient resources are a huge obstacle to expansion, especially among firms that need to have a global presence. To a typical financially constrained entrepreneurial firm, a network exchange structure offers an opportunity in which resources can be gained without incurring large investments, providing a way to maximize adaptability to its environment (Larson 1992). For example, studies have shown that networks are important in the internationalization processes of firms from Denmark (Servais and Rasmussen 2000), New Zealand (Coviello and Munro 1995), and three Scandinavian countries (Bell 1995).

Opportunities arising from social and business networks have been explicitly acknowledged by the proponents of the network perspective of internationalization. However, the process of recognizing and/or creating the opportunities and the nature of decision making that may account for the often-unsystematic internationalization behavior have received scant attention in existing models (Bell 1995; Johanson and Mattsson 1992; Jones 1999).

This gap has provided us with an opportunity to explore new ways to better understand the network mechanisms underlying internationalization that would partially address the call to allow for influence of “randomness” and “unpredictable incidents” factors on network development, when “investigating, interpreting, and depicting network process” (Slotte-Kock and Coviello 2010, p. 49). We approached this issue by adopting the conceptualization of internationalization as an entrepreneurial process and positioning internationalization as the process of exploration and exploitation of opportunities that lead to presence in international markets (McDougall and Oviatt 2003). By conceptualizing internationalization as an entrepreneurial process in investigating how entrepreneur-centered networks facilitate the route to the global marketplace, we use an international opportunity exploration–exploitation framework and focus on identifying the roles of networks in this internationalization processes. Although this conceptualization positions internationalization as an opportunity-based process, it also acknowledges the entrepreneur as a key driving force and networks as a main influencing factor throughout the process. This is consistent with the notion that internationalization does not happen in isolation but is embedded in the broader social and business context in which “the entrepreneur enacts [his or her] organizing context (network) … [for management] in a network rather than management of a network” (Slotte-Kock and Coviello 2010, p. 47). Through managing in networks, the process of international opportunity exploration–exploitation is essentially channelled, directed, facilitated, or inhibited. In doing so, we can trace how different parts of networks are activated at different stages to accommodate different requirements of the firm. Furthermore, this partly addresses Coviello and Munro’s (1995, 1997) explicit call for more studies that investigate the role of networks in new ventures in a time sensitive manner.

RESEARCH METHODOLOGY

The aim of this study is to explore how entrepreneurial networks facilitate the speedy internationalization of small ICT firms. We do so by focusing on small high-technology firms in New Zealand through an in-depth investigation of the role of networks in this process. We deemed it appropriate to use a qualitative approach, more specifically with a multiple case study design to fully understand the process. Following Eisenhardt (1989), we specified the number of case sites before initiating the research, selecting four case sites.

Case Selection

We purposively selected participating companies (see Table 1) following specified criteria. First, the companies must belong to the ICT sector, defined as any technologies used to “store, receive, transmit, and algorithmically transform any type of information that can be digitised—numbers, text, video, music, speech, programs, and engineering drawings, to name but a few” (Brynjolfsson and Hitt 2002, p. 23). Second, the company must be a new ICT firm. When defining new technology-based firms, the age limit most often required in the literature is six years (Coviello 2006). The selected cases are between two and six years. Finally, companies must be born global, which means that they needed to initiate their international activities within the first three years of inception (Coviello 2006; Knight, Madsen, and Servais 2004).

Case 1. Xero (www.xero.com) produces an online accounting system designed specifically for SMEs. The
Xero is designed to connect business owners, staff, bookkeepers, accountants, and other financial advisers to the same financial system over the Internet, employing the software as a service (SaaS) model. Xero was born out of the frustration of a software entrepreneur and a specialist small business accountant at being unable to find a simple and affordable accounting product for SMEs. The founders identified the business opportunity in 2003, but it was not until 2006, encouraged by growing Internet access, advancements in web development techniques, and increasing acceptance of the Internet in business, that the idea came to fruition. Xero’s beta program began in November 2006, five months after development started, involving SMEs and their accountants. Following a successful limited public release in April 2007, the software was fully released to the general market in August 2007. The company simultaneously completed an initial public offering of ordinary shares, raising NZ$15 million in June 2007. Eighteen months after start-up, Xero had solidly established itself in the New Zealand market by forming strategic relationships with major New Zealand banks and the accounting community. The firm has successfully entered the U.K. market and initiated entry into the Australian market. By August 2008, the firm had more than 2000 paying customers and employed 47 employees who develop markets and sell Xero products from offices across New Zealand, the United Kingdom, and Australia.

Case 2. Founded in 2006 by two technology entrepreneurs, Tomizone (www.tomizone.com) is an Auckland-based private start-up company offering an easy, low-cost broadband Internet connection with Wi-Fi (the international standard for wireless broadband), integrated into an easy-to-use, world-class management platform. After building the prototype system, the founders attracted a third founding shareholder, a renowned advocate and investor in New Zealand innovation and technologies. He is also the owner of an investment company and founder of one of the largest retail chains in the country. This development was followed by the launch of the beta version of Tomizone’s product in August 2006, and subsequent company growth and development followed. Since its founding in 2006, the company has developed several valuable international partnerships that enabled the company to work on distribution of its hotspot software inside a range of products produced by partners. The company is now an international company with seven employees at its headquarters in New Zealand and has offices and partners in Australia, Fiji, and India.

Case 3. SimWorks (www.simworks.biz) is a privately held company specializing in the development of innovative mobile antivirus applications. The company was established in 2002 by an entrepreneur who, before founding SimWorks, was involved in the wireless industry as a legal adviser to operators and developers. By the time the company was incorporated, the first prototype of the product and the company’s business plan had already been developed. This enabled the company’s founder to approach prospective investors and secure initial investment for research-and-development activities. The research and design activities continued throughout 2004. At the beginning of 2005, SimWorks signed a deal with the Australian mobile operator Optus, and they began work on the development of a personalized mobile application. It was a great success for SimWorks at that time to conclude this partnership,
though product development delays occurred and negoti-
tiations took more time than was initially expected. De-
spite some challenges, the company continues its oper-
ations and negotiations with local and international
mobile operators to form partnerships. SimWorks’s
product has recently been recognized as one of the ten-
products of its kind in the world as assessed by
telecommunications analyst Visiongain (SimWorks
International 2007).

designs, develops, and markets software for self-service
artificial intelligence robots. These robots have comput-
tational intelligence exceeding that of humans and have
useful applications in business, academic, and public
service organizations. Looking like humans, speaking
many languages, and enabled to provide emotional
responses, these robots work as assistant lecturers at
universities, salespeople in retail stores, and nurses in
hospitals. The company was established in 2004 as an
artificial intelligence production branch of its parent
company, which is a recognized expert in developing
high-quality software applications and multimedia sys-
tems in New Zealand. Robot-Hosting’s founder is a
computer engineer who migrated to New Zealand in
1990 and completed his doctoral studies examining
commonsense reasoning and ways of teaching robots to
make “commonsense” judgments. At the time, the
founder began collaborating with the Electrical Engi-
neering Department at the University of Arizona to cre-
ate a virtual teacher of electrical engineering concepts.
In 1995, he founded his first company that has since
evolved from initially designing educational computer
games with mind-developing content to designing com-
plex, high-quality multimedia systems. In 2002, the
company began developing multimedia robots, and in
2004, Robot-Hosting was formed as a separate com-
pany focusing on artificial intelligence production. Cur-
rently, the company has a presence in the United King-
dom and Australia, in addition to its New Zealand
market.

Data Collection and Analysis

We collected the main data through recorded semistruc-
tured interviews that were conducted with one
founder/entrepreneur from each case firm. When the
company had multiple founders, we interviewed the
founder/entrepreneur responsible for decisions related
to the international involvement of the firm. This satis-
fies the criteria that the informant must be an influen-
tial, prominent, and well-informed person in the organ-
ization selected on the basis of his or her expertise in
areas relevant to the research (Marsh and Rossman
1995). We conducted four interviews lasting up to two
hours.

We established a case study protocol to ensure that sim-
ilar procedures were followed for all interviews (Yin
1988). General topic areas were forwarded to the
informants before the interview to allow for prepara-
tion, and an interview protocol was used in all inter-
views to ensure consistency and focus within the
boundaries of the investigation. We used open-ended
questions that allowed the interviewer some freedom to
extend the questions and the participants to expand on
interesting and unique aspects of the process.

To supplement the interview material, we obtained
archival data that consisted of planning documents,
internal reports, and other relevant records. We also
sourced secondary published data mainly from the web
and business and trade press. Multiple sources of data
help reduce the potential for bias that could occur
through inadequately documented evidence and poor
recall or articulation in the interviews. Table 2 presents
the summary of the collected supplemental documents
for each case.

Following Yin’s (1988) recommendations, we main-
tained a database of all recorded interviews, transcripts,
and notes made from examination of various documents
for analysis. Before drawing conclusions, we structured
data analysis along three steps involving (1) a presenta-
tion of the case descriptions as a way to organize the key
findings, (2) a within-case analysis, and (3) cross-case
analyses.

We initially developed case descriptions for organizing
the case study after the interview with each informant
was conducted and transcribed. A key aspect of this step
is developing a chronology of events. The use of inter-
view recordings was particularly important to ensure that
none of the contextual information, such as intonation,
was lost in the transcription. After completing the
chronology of events, we identified the gaps or points of
clarification and used secondary sources of data. The sec-
ond step involved within-case analysis performed in an
attempt to thoroughly understand case-specific patterns
before proceeding to the third step, which involved find-
ing cross-case patterns and differences. The third step
was a thematic analysis, a common method of qualitative
analysis used to code data by identifying themes within
the identified research framework (Boyatzis 1998).
A theme is a pattern that emerges from the qualitative information and can either be directly observable in the information or underscore certain aspects of a phenomenon (Boyatzis 1998). We used three criteria for identification of themes (Motion and Leitch 2002): (1) recurrence of meaning, (2) repetition of the same text/data, and (3) text salient to the research topic. We established codes as a result of development, redevelopment, and refinement of qualitative data interpretation. In the initial coding stage, we used NVivo 7 to search and retrieve relevant text and quotations according to the salient aspects of the research topic. We used manual coding in the later stages to organize the text according to themes (Taylor and Bogdan 1998).

**FINDINGS**

The participants were conscious of external factors that significantly influenced their internationalization thinking—mainly, the size of the domestic market and the global nature of their industry. Although New Zealand is regarded as a technologically advanced country, a population of just over four million means that firms operate in a relatively small domestic market. This, combined with the global applicability of their products, presented an opportunity to take advantage of foreign markets and is the main motivation for establishing their companies with an international focus from inception. The principal motivation is to take a global perspective and become significant players when national boundaries are not an obstacle to global domination.

We think there's no reason why you wouldn't win on a global stage,... it's just playing in the big game and building a global business.... [We] just want to do it big ... showing that you can build a global business from this part of the world. (Xero, interview)

[If] you look at some of the other internationalization examples you go: well what did they do? Well they had the resources to go and sell into those markets and make their product popular. Okay so why can’t we do that? (Tomizone, interview)

The discussion of the role of networks in the internationalization process as experienced by the participating firms requires acknowledgment that each firm used different types of networks. These types of networks can be classified according to their associations and could be either social connections or business contacts. These networks are dynamic such that compositions change as internationalization unfolds.

Internationalization consists of two parts: part one is research and part two is deployment. For the first part, you can go through networking in terms of learning about the market. You can speak to a lot of people. You can get help from NZTE [New Zealand Trade and Enterprise] to

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**Table 2. Summary of Supplemental Documents**

<table>
<thead>
<tr>
<th>Company</th>
<th>Internal Documents</th>
<th>Published Materials (Quantity)</th>
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<tbody>
<tr>
<td>Xero</td>
<td>Public offer document</td>
<td>Company website (1)</td>
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<td></td>
<td></td>
<td>Press releases/media statements (14)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public presentations notes and slides (1)</td>
</tr>
<tr>
<td>Tomizone</td>
<td>Marketing plan</td>
<td>Company website (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Press releases/media statements (9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Founder interviews in press (1)</td>
</tr>
<tr>
<td>SimWorks</td>
<td>Marketing plan</td>
<td>Company website (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Press releases (4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Founder interviews in press (2)</td>
</tr>
<tr>
<td>Robot-Hosting</td>
<td>Marketing plan</td>
<td>Company website (1)</td>
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<td></td>
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<td>Press releases (4)</td>
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<td></td>
<td></td>
<td>Speech to investors (1)</td>
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understand some markets and to get some initial contacts in some of those markets. The deployment’s a lot harder, because then you’ve got to actually find some people that you trust in those markets, people who you will be doing business with. (Tomizone, interview)

Using our observations, we developed a network-based internationalization model that shows how networks influence the internationalization process (see Figure 1). The model captures the interrelationship between social and business networks leading to the exploration and exploitation of opportunities, respectively. Informal relationships from already-established and newly formed networks become sources of knowledge and resources that allow the central actors to explore perceived opportunities. These social networks could potentially lead to formal business relationships in which old and new contacts/actors become significant partners in the subsequent exploitation of internationalization opportunities. Intuitively, some business networks may evolve into social networks (thus the broken arrow to show this possible relationship). We conceptualize social networks as likely to facilitate exploration, but this may also lead to exploitation in the form of international market entry without necessarily going through the business network. We structure the findings according to this framework.

Social Networks and Internationalization Opportunity Exploration

We find that the entrepreneurs actively strove to use networks as they explored opportunities for internationalization, and on many occasions, past, present, or newly acquired serendipitous contacts (e.g., from trade fairs and sponsored events) were largely influential in this process. In particular, in the early stages of internationalization (exploration process), the entrepreneurs seemed to use social networks the most. These social networks enabled the process of opportunity exploration such that they exerted a significant influence on the firms’ foreign market selection and entry decisions, and in several instances, social networks led to the formation of business networks that enabled the firm’s further internationalization. We also find that social networks can be used to validate the potential of a firm’s product in the market in which the firm was going to explore internationalization opportunity. Overall, social networks seem to significantly influence the selection of which markets to enter and serve as a trigger for the initiation of internationalization into a particular market.

Social Networks and Deliberate Internationalization Strategy. All the entrepreneurs in our study strongly believed that networks enable opportunity exploration in the internationalization process and that personal networks facilitated the initial expansion of their operations offshore.

[Partnering] is actually key to get this [internationalization] stuff. You know you only get in by somebody endorsing you, so partnerships and relationships are the key. (Xero, interview)

If you’ve got contacts, there’s people you know, that you can call. It makes internationalization much more accessible. (SimWorks, interview)

When expanding in international markets, the most important thing is knowing people, this is the
thing that will get you the expansion. (Tomizone, interview)

Given these statements, it is worth noting that the participants did not hesitate to take advantage of already-established personal contacts (e.g., Xero in the United Kingdom) or actively create new ones as they deliberately searched and pursued foreign entry opportunities.

[So] one of the things that you learn as an entrepreneur ... you carry forward your personal contacts. So a lot of the last business was also operating out of the UK, ... and we made a lot of relationships through them, which just rolled into the next business. (Xero, interview)

If you don’t know anybody the best thing you can do is pay people to be your friend in those markets. (Tomizone, interview)

Among the participating firms, Xero was the only company that showed evidence of strategic thinking and systematic evaluation of alternative internationalization opportunities, though this may be due to the initial public offer (IPO) and the firm had to convince would-be shareholders of a planned strategy. Although most New Zealand companies tend to consider Australia (mainly because of its close proximity) as their first market, Xero selected the United Kingdom at the outset because the founder had had previous experience in the U.K. accounting system and had formed a good network of personal contacts with local industry knowledge.

Yeah, the reason for that [selecting the United Kingdom as the first international market] is that I think for New Zealanders it’s a good first market, because we have such good networks over there and personal relationships. (Xero, interview)

These relationships were further strengthened when before its U.K. launch, Xero won the Technium Challenge, beating other finalists from China, France, and South Africa. The competition was organized by Technium UK and International Business Wales to award one high-growth international technology company a business passport to help it set up in Wales. This was viewed by the founder as an important validation of the U.K. opportunity because it opened up an opportunity to build “key relationships with accounting firms, banks and law firms … to help accelerate Xero’s entry into the UK market in early 2008” (Xero 2007a).

In addition to the use of previously developed networks, entrepreneurs also engaged in activities aimed toward developing new networks that would potentially assist them with global product commercialization. This is consistent with the “purposeful enactment” factor illuminated by Slotte-Kock and Coviello (2010), in which a shift in a firm’s direction happens as the entrepreneur aligns the network with the environment. To accommodate this, the participants identified the importance of specialized events aimed to assist in the development of networks, such as trade fairs, industry expositions, and competitions, to enable them to get known in the international arena and develop potential international prospects.

It [internationalization] is not business related, it’s not technology related—it’s personal related. You want to do this type of thing you should be an outgoing person and you have to do networking, you have to be kind with people, you have to be always respectful. It’s kind of communication skills. Yes these type of things [are] definitely necessary. (Robot-Hosting, interview)

In addition to international competitions, participation in country-specific industry events generates awareness and future leads. SimWorks participated in the CeBIT (see http://www.cebit.de/home), the world’s largest ICT fair, for two consecutive years when it was seeking international expansion. As part of the New Zealand pavilion, SimWorks used its participation at the event as an opportunity to explore new international channels, meet new customers or partners, and use “networking opportunities with the other companies, [which are] all interesting and innovative companies and very valuable contacts to have” (Hedquist 2007). However, while such events are useful, they may also pose challenges because they could potentially put financial pressure on the company as it pursues new leads while establishing other markets.

We have done a lot of international work but one of the things that really tripped us up is that ... things in Australia took far longer than we thought and as a result all of the cash flows that we were expecting to come from that didn’t and ... there was no spare capacity at all to do anything except this deal. (SimWorks, interview)

Despite the challenges of managing new business leads, this finding supports current literature that confirms the enabling role of networks around international trade.
shows in the internationalization of small firms (e.g., Evers and Knight 2008; Shoham 1999). During these events, the entrepreneurs also engaged external experts to help them identify or evaluate initial internationalization opportunity. This is illustrated in the entrepreneurs’ active use of such forms of networks as colleagues, consultants, and government agencies.

P1a: Social networks developed from personal connections enable exploration of internationalization opportunities.

P1b: In the absence of personal connections, industry events can act as a proxy for social networks when exploring internationalization opportunities.

Social Networks as Serendipitous Internationalization Triggers. We further find that decisions on a particular market selection and entry mode can be triggered by serendipitous encounters rather than from planned action determined by strategic decisions, rational processes, or systematic information gathering (Coviello and Munro 1995; Slotte-Kock and Coviello 2010). The role of serendipitous occurrence was evident in the encounters depicted in Table 3 as experienced by three of the participating firms. A holiday encounter and inbound inquiry triggered Tomizone’s entry into Fiji and India, respectively, whereas a classic “two degrees of separation” scenario (a popular occurrence in small communities when a person is only an introduction away from someone else) led both SimWorks and Robot-Hosting to their quick exploration of the opportunity to enter the Australian market.

P2: Social networks can arise from serendipitous encounters and lead to the exploration of internationalization opportunities.

Social Networks Can Lead to Business Networks

In addition to social networks exerting a significant influence on firms’ foreign market selection and entry, we find that the role of social networks often lead to subsequent establishment of business relationships that enable further internationalization in markets in which opportunities were initially explored. This effect is evident in the case of Tomizone, whose Indian market opportunity exploration began with an inbound inquiry but subsequently led Tomizone to a successful “India 105-city partnership”—a partnership with a giant network company in India that saw the rollout of Tomizone’s network software to 242 Wi-Fi outlets across 105 cities. Although this seems insignificant in a country of 1.2 billion people, National Business Review (Keall 2009) reports that “242 hotspots equals around 20% of the Indian market.”

Social networks can be successfully used to explore internationalization potential, as illustrated by SimWorks’s strategy using past industry contacts in Australia. Through these connections, the firm was able to gauge the viability and acceptability of its product ideas in the target market and gained a partnership with Australia’s largest mobile operator seeking precisely the solution that SimWorks had developed.

I have done a lot of work in Australia before so then I spoke to ... people I already knew there, people in the industry, to find out whether this was a viable idea, that it was something that the operators would want there and things like that. So you know, I talked to people in this market and generally we had some feedback that yip this was a product that the market would like and we should sell it there. So yeah, that’s how we started. (SimWorks, interview)

P3: Social networks that enable exploration of internationalization opportunities can lead to collaboration and become formalized business networks.

Business Networks and Exploitation of Internationalization Opportunity

In the subsequent exploitation of internationalization opportunities, informal networks that were appropriate were formalized into some form of partnership and other cooperative and contractual agreements. For example, Robot-Hosting relied on partnerships to access a partner’s sales channels and enjoyed the benefits of that distribution network straight away, a process that would have taken a longer period to achieve. Tomizone entered into an original equipment manufacturing agreement with an Australian Internet provider, SimWorks partnered with an Australian operator after failing to find a suitable partner in New Zealand, and Xero adopted a critical partnership strategy.

The findings provide evidence that firms tended to rely on partnerships to facilitate product commercialization in international markets. However, depending on the
firms’ needs and the characteristics of the products, the requirements for partners varied, and different forms of partnerships were used by each firm.

When firms begin exploring internationalization opportunities, some of these inevitably will lead to exploitation and formalization of business relationships. Indeed, we find that partnerships and cooperative modes constituted the preferred strategy for the opportunity exploitation process because all participating firms tended to rely on partnerships to facilitate the opportunity exploitation process. Furthermore, the firms used different forms of partnerships that reflected their specific needs. Overall, partnerships enabled and facilitated the firms’ internationalization in the following four ways: gaining credibility in the target local market, acquiring local market knowledge and customers, and overcoming resource limitations.

**Gaining Credibility in the Local Market.** As we noted previously, Xero’s strategy for entering the U.K. and Australian markets was based on the exploitation of partnership opportunities. Xero’s service product concept is consultancy focused, which made it critical to

### Table 3. Social Networks from Serendipitous Encounters

<table>
<thead>
<tr>
<th>Company</th>
<th>Foreign Market</th>
<th>Social Networks Description</th>
<th>Comments/Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomizone</td>
<td>Fiji</td>
<td>Holiday encounter</td>
<td>“I knew that they [resort] needed my service. And then even when I was in holiday I couldn’t help myself but to sell something. And then on top of that particular resort there was a bunch of coffee shops around Fiji that had the same brand as the one that we do work with here. And so I said at the same time you guys need the service up here…. And then with that they said yes.”</td>
</tr>
<tr>
<td>Tomizone</td>
<td>India</td>
<td>Inbound inquiry</td>
<td>“[That] was an inbound enquiry from someone that was at a senior level in the market. And we were looking at that market anyway as market entry. So it was sheer fate that made that happen. By some fateful match somewhere this person was the right person to ring at the right time. And I was the right guy to pick up the phone and answer the call…. He [the partner from India] was in New Zealand on holiday and he saw the service, and he thought this would be big in India. And he did his own little bit of research in the background and made contact with us from there.”</td>
</tr>
<tr>
<td>SimWorks</td>
<td>Australia</td>
<td>Chance encounter</td>
<td>“We hit upon a partner that was already involved in a transaction with a mobile operator in Australia for doctors and that operator had expressed a desire to have something just like we had, so we just basically walked into it. [These] guys had already done the hard work, [and] it was our part of the sales really, finding these guys that have already done it. So once we found these guys we kind of walked into this deal.”</td>
</tr>
<tr>
<td>Robot-Hosting</td>
<td>Australia</td>
<td>Two degrees of separation</td>
<td>“I met this guy and this guy knew another guy and the other guy knew a third and the third guy had a connection with the mining company. Then they said okay and I’m on the plane three days later. I went there and met them and arranged a deal and then we went to the mining company, I presented it there and the guy said yes, go for it.”</td>
</tr>
</tbody>
</table>
develop partnerships with local companies to get endorsements and gain credibility among potential local customers. This was a deliberate internationalization strategy in which Xero (2007b, p. 33) developed a “critical partnership strategy” described in its public offer document: As an “effective partnering program to sell the Xero program through its partners... this [program] will provide Xero with scalable growth opportunities as well as lower costs of sale.”

For their Australian entry, Robot-Hosting opted for a supplier partnership with a large mining company in Australia, which enabled the firm to generate sales while avoiding large foreign market investment and costs associated with establishing a market presence (e.g., staff, office). SimWorks’s partnership with an Indian company ensured that it was not perceived as a foreign company, and establishing a branch office in Fiji was acceptable given the favorable image of New Zealand in the island nation.

P4: The use of business networks is an effective approach to gain initial credibility when entering a new market.

Acquiring Local Market Knowledge and Customers. Business partners in host markets become an important source of market knowledge that is crucial to strategic decisions. This may be in the form of regulatory issues or industry-specific knowledge of competitors and major players. Thus, this knowledge facilitates a seamless entry, and hurdles are anticipated and addressed beforehand. As the Xero respondent stated, “Our earlier established relationships in the market were a great way to gain initial insights into the U.K. accounting market.”

Partnerships and cooperative modes continued to be the preferred strategy for subsequent international market entry. For example, Xero’s strategy for Australia was based on exploitation of partnership opportunities. A sequence of media releases issued by the company confirmed that Xero partnered with two of Australia’s largest banks to provide automated daily bank feeds and later entered into a marketing partnership with a leading Australasian practice management accounting software provider, which gave it access to thousands of this firm’s clients in Australia.

The intended partners include accountancy firms, financial advisers, financial institutions, Internet Service Providers, sector, industry and trade association groups. These are all organizations that have day-to-day contact with large penetrable customer bases. Partners will be rewarded through a structure that will encourage them to promote the Xero product to their customers. (Xero 2007b)

Tomizone’s agreement with local Internet providers facilitated the integration of its product within the partner’s products and distribution through the partner’s channels while retaining its brand. The firm executed a partner strategy in India and a branch office strategy in Fiji. Its marketing plan indicated that based on country conditions, these were the most efficient and effective ways to establish the Tomizone presence in these particular markets.

In addition to business contacts, more formal business network actors, such as consultants and government contacts, were also widely used by the participants. Xero attributes its success in the United Kingdom to the networks it accessed through an NZTE-initiated program, UK Beachhead program.

The Beachhead program opens up fantastic networks [and] was a great way to access networks in other countries—people, opportunities, and potentially investors.... Successful exporting is all about networking, making connections and getting revenue. That’s the most important thing. (Xero, interview)

The NZTE established a U.K. advisory board that included well-connected and experienced U.K.-based people who were members of the NZTE Beachhead board and were willing to help Xero get into the United Kingdom.

P5a: The use of business networks is an effective approach to acquire local market knowledge that enables successful exploitation of internationalization opportunities.

P5b: The use of business networks is an effective approach to gain access to local customers and, thus, to mitigate the impact of the uncertainty associated with foreign market entry.

Overcoming Resource Limitations. With limited resources, entrepreneurs also engaged in activities aimed to develop new networks that would be able to assist them with global product commercialization. Partnerships from networks assist companies that are otherwise unable to enter foreign market because of limited...
resources. This is consistent with the “purposeful enact- ment” factor Slotte-Kock and Coviello (2010) illuminate, in which a shift in a firm’s direction happens as the entrepreneur aligns the network with the environment. As the respondent from Robot-Hosting said, “Always financial resources is constrained and if you don’t have the financial resources you have to develop partnerships.”

To accommodate this, the participants identified the importance of specialized events aimed to assist in the development of networks, such as trade fairs, industry expos, and competitions. These events enabled them to get known in the international arena and to develop potential international prospects. In addition to international competitions, participation in country-specific industry events generates awareness and future leads. During these events, the entrepreneurs also engaged external experts to help them identify or evaluate initial internationalization opportunities. This is illustrated in the entrepreneurs’ active use of such forms of networks as colleagues, consultants, and government agencies. As the respondent from Xero said, “Internationalization is all about resource allocation and making sure that your spending levels are appropriate for where you’re at and how much cash reserves you have.”

The findings provide evidence that firms tended to rely on partnerships to facilitate product commercialization in international markets. Motives for internationalization among these entrepreneurs originated from their intention to seize international market opportunities. The foundations for early internationalization were embedded in their firms’ strategies based on innovative products and developed in response to identified global needs right from the start. It seems that the founders/entrepreneurs had first recognized a need and then established a company around that need. In addition, there emerged a strong “aspirational” aspect to the foundation of the companies, showing that it is possible to build a global business from anywhere in the world.

\[ P_6: \] Business networks are an effective approach to overcome resource limitations and enable born-global ICT firms to broaden their formal business networks and facilitate the exploitation of internationalization opportunities.

**DISCUSSION AND CONCLUSION**

This study shows that, in general, entrepreneurs use social networks to explore opportunities for internationalization and find that on some occasions, social networks can be a source of actual international opportunity. In addition, serendipitous contacts, such as inbound inquiries, can facilitate subsequent internationalization. The evidence illustrates that networks exert a significant influence on firms’ foreign market selection and entry.

International opportunity exploration can result from an unexpected opportunity rather than through planned action determined by strategic decisions, rational processes, or systematic information gathering (Coviello and Munro 1995; Slotte-Kock and Coviello 2010). This effect is evident in the case of Tomizone for which decisions about its second and third international markets (including entry mode and timing) were greatly influenced by serendipitous encounters. For Robot-Hosting, the process of initial international opportunity exploration was influenced by a new partner who joined the company. Although the founder believed that international activity would be important for the firm, it was the knowledge possessed by the new partner that influenced his decision to eventually exploit global markets. Overall, the participants believed that the presence of personal networks in foreign markets made it easier for them to enter such markets.

The results further suggest that the networks themselves in the opportunity exploration process can be a source of internationalization opportunity. The effect is evident in the case of Robot-Hosting for which social network was a trigger for initiating commercialization of the firm’s product. For SimWorks, the entrepreneur’s knowledge of the Australian market and his previously developed network connections led to a partnership with Australia’s largest mobile operator. Without the existence of relationship networks, this opportunity may not have been available to the firm.

Network theory has received significant attention in existing internationalization and international entrepreneurship literature. In particular, the impact of both social and business networks on the internationalization processes of firms has been extensively investigated (Coviello and Munro 1997; Crick and Spence 2005; Johanson and Mattsson 1988, 1992; Johanson and Vahlne 2003; Jones 1999). Therefore, we investigated the process of recognizing/creating the opportunities and the nature of decision making that may account for the often-un systematic internationalization behavior. The results of this study show that entrepreneurs take advantage of all the various network forms throughout the different
stages of the internationalization process. As internationalization of a firm proceeds, the role and nature of the networks change. The findings provide evidence that in the process of opportunity exploration, entrepreneurs of born-global ICT firms may use their social networks as information channels through which the firm gains information about international markets and opportunities. We find that in instances in which entrepreneurs actively searched for their first opportunities, the decision on initial international market selection was influenced by the location of their personal networks. The study further suggests that networks themselves are actual sources of internationalization opportunity. In some instances, internationalization opportunities were presented through serendipitous encounters. This element of discovery involved the actions of others who, acting on their own knowledge and information, located the focal firms. Furthermore, the entrepreneurs also engaged external experts, such as colleagues, consultants, and government agencies, to help them identify or evaluate an opportunity.

This study’s main contribution pertains to the network theory of internationalization by investigating the role of networks through an exploration–exploitation lens in the pursuit of international opportunity. This framework complements prior studies on entrepreneur-centered networks and their role in the internationalization process by providing insight into the logic behind the nonsequential and nonlinear patterns of network-driven internationalization, such as access to prior networks, discovery through the actions of new networks, and the role of serendipitous contacts. With these findings, we are consistent with Slotte-Kock and Coviello’s (2010) work, which stresses the importance of allowing for “randomness” and “unpredictable incidents” factors and their ability to influence the network development when investigating, interpreting, and depicting network process.

The qualitative approach we took in this investigation also contributes toward better understanding (Hoang and Antoncic 2003) how and why firms identify and/or create internationalization opportunities and how they further develop the strategy for pursuing these. The role of social and business networks in the proliferation of internationalization opportunities as presented in this model is consistent with the network perspective of internationalization in which internationalization is enabled through the use of resources and information possessed by connected social and business networks that, combined with the firm’s own resources and knowledge, allow it to find, identify, respond to, and develop internationalization opportunities. Thus, consistent with previous research, we find that when opportunities are more refined, resources and knowledge further develop and new types of problems call for more formal strategies. This helps explain the transition from the social type of networks to more calculative or business types of networks that tend to develop in the later stages.

By emphasizing the role of previously established entrepreneurial networks in the identification/development of opportunities and creating new network relationship in new ways, we offer a more refined understanding of how the network perspective works that is consistent with the notion that network influence starts at the “pre-internationalization, pre-growth and even pre-commercialization stage of new venture life cycle, that is, from the very earliest stage of firm development: conception” (Coviello 2006, p. 723). Therefore, we contribute to the network view of entrepreneurial internationalization by providing evidence for the need to understand the process of network evolution from the beginning of the new venture’s life cycle rather than from the point at which the firm enters its first foreign market.

In general, we can conclude that ICT companies enter and sustain a competitive position in the global marketplace by developing and using social and business networks. This implies that firms trying to commercialize technological innovation on a global scale need to incorporate a thoughtful approach in the development and management of networks as primary competitive tools into their strategic planning. Entrepreneurs and entrepreneurial firms can benefit from making the best use of any existing networks and therefore should focus their efforts on development in markets in which they potentially want to expand. In addition, entrepreneurs can generate internationalization opportunities through industry events, such as conferences and trade shows.

Although this article offers several contributions, as with any study, it is not without limitations. First, we undertook the study in a narrowly defined industry context (New Zealand–based internationally focused ICT firms) and considered only firms that can be classified as knowledge intensive, with advanced capabilities in technology and an educated workforce. Although such a narrowly defined context is desirable from the methodological logic pursued in this study, it poses limitations on the findings in the context of broader born-global and
internationalization theory. This is particularly important given that contextual factors are often reported to influence the ways that firms relate to their markets.

The second limitation that restricts the findings’ interpretation is the number of cases studied, which we limited to four and selected according to very particular criteria. Selection of a greater number of cases might provide a clearer picture of the driving force and influential factors and their interrelationships. The sample used in this study is theoretical, not random, because only the firms that qualified for the study and were willing to participate were interviewed. Therefore, generalizations that can be made from the research findings are somewhat limited. Further research into the connections between and among different actors within a network; the transfer of capabilities and knowledge to other members of a network; and an in-depth investigation of outcomes, including firm performance attributed to network relationships, would contribute to a better understanding of the network and internationalization phenomena.

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