



The Role of Entrepreneurial Networks in the Exploration and Exploitation of Internationalisation Opportunities by ICT Firms

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ABSTRACT

This paper investigates the role of entrepreneurial social and business networks in the internationalization of high-technology firms. We present case study evidence from born-global ICT firms that shows 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 wider business network that facilitate exploitation of internationalization opportunities culminated by successful entry into foreign markets. The study incorporates contemporary literature and offers an internationalisation 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.

Key words: entrepreneurial networks, internationalization, born global, ICT 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 which do not stay open for long thus, early internationalization becomes an imperative (Sapienza, Autio, George and Zahra 2006) especially for smaller born-global firms (Freeman, Hutchings, Lazaris and Zyngier 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 effectively execute strategies, firms may increasingly have to rely on networks, consisting of a multitude of people and organisations to create innovation and commercialize products to international markets (Coviello and Munro 1995, 1997; Elfring and Hulsink 2003; Kelly 2004). Networking, sometimes facilitated by international trade shows (Shoham 1999; Evers and Knight 2008) and various industry events is especially important for small and medium sized enterprises (SME) considering that they are often significantly resource-constrained to fully take advantage of new opportunities in the marketplace.

Hoang and Antoncic (2003) reviewed 15 years of research into the consequences of networks in new ventures and SMEs and found that while extensive work has been done on network relationships, governance and structure, a more process-oriented investigation is yet to emerge. A very recent and timely response to this is a process focussed review that offers a theoretical framework for investigating networks as a developmental outcome using multiple perspectives conducted by Slotte-Kock and Coviello (2010). Networking could substantially improve the ability of small companies to quickly explore and exploit opportunities therefore improving their competitiveness and, by the same token, their likelihood of survival. A better understanding of how networks affect processes such as internationalisation therefore would be useful in theory and practice. This paper 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 to explore how Information and Communication Technology (ICT) firms utilise 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 firms operate in an extremely competitive environment that is subject to continuous and disruptive innovations, and characterised by exceptionally short product life cycles with constant product updates and upgrades. Success therefore is not only embedded in the firm's ability to develop innovative products or services, but also in the speed at commercialising these innovations.

While domestic markets may be important as a launching platform for new market offerings, firms that operate in this sector often need to commercialize to a global scale. This usually relies on the efficiency and effectiveness of commercialization strategies. Literature from over 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). Be that as it may, many are often disadvantaged by lack of internal resources necessary to roll out global product commercialization. However, such firms are able to circumvent these challenges through networking with people and organisations that in turn become an important source or provider of resources necessary for fast and early commercialization of innovative products to the global marketplace. These networks are often dynamic in nature and change considerably over time to align the network with the environment (Slotte-Kock and Coviello 2010). This is often largely driven by the entrepreneur or founder (O'Donnell, Gilmore, Cummins and Carson 2011) whereby at certain points (e.g. such as entering a new market) Slotte-Kock and Coviello (2010) propose the focal firm shifts directions.

Given this foundation, it is important to understand what and how different types of networks are used by entrepreneurs to enable international commercialization of their firm's innovation and is therefore the focus of this study. We do so by investigating four cases of New Zealand born-global ICT firms with particular focus on how high-technology firms utilize networking and how these activities are integrated in their strategies to commercialise their products to the global marketplace. We offer an internationalization model that reflects how social and business networks facilitate the processes of exploration and exploitation of internationalization opportunities. This approach addresses a plea for more qualitative investigation into network research from Hoang and Antoncic (2003) 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. Experience is generally considered an asset especially when founders have built up managerial and other competencies. However, Star 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. However, 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 in order 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 SME 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, there are unique contexts that 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, hence the need to quickly move 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 multi-national 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 speed to market strategies (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 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. It is a view that is also reflected in the work of McDougall, Shane and Oviatt (1994) showing that networks help founders of international new ventures or born-global firms to identify international business opportunities, and that these networks appear 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, firstly through access to international markets and secondly 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

Networks generally 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 generally 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 the social network theory that 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 since organizational behaviour is built around the actions of the individuals 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 applied to internationalization research.

A network has a central figure and this may be a person, an individual or an organisation. This being so, the development of organizational networks maybe orchestrated or driven by an individual (or a team) therefore the boundaries between individual and the organization may be difficult to define. In the context of this paper 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 at 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) and in relation to location. Coviello and Munro (1997) found that location appears to be 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. The Norwegian Industrial and Development Fund (1995, p.20) define business networks as *"...long term, expedient arrangements between separate but related profit centres, which give participants the opportunity to achieve or maintain competitive advantages in relation to competitors outside the ranks of said corporate cooperation."* Unlike social networks where the "actors" are informally linked to each other (O'Donnell, et al. 2001), business networks are goal-oriented cooperation among two or more businesses involving a mutual exchange of resources and/or concerted efforts to resolve problems by entering into formal agreements (Borch and Arthur 1995; 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 therefore business networks can be strongly relied upon 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 viewed 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 start the building of trust (Blomstermo and Sharma 2003; Wilson and Mummalanei 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

Scholars from both international business (e.g., Axelsson 1992; Bartlett and Ghoshal 199; Forsgren 1989; Johanson and Mattsson 1988) and entrepreneurship (e.g., Aldrich and Zimmer 1986; Larson and Starr 1993) recognize the importance of network research to their fields of study much earlier than other business disciplines. Analysis of networks later received attention among international entrepreneurship (IE) researchers that emphasize the value of network theory in the search for an explanation for the accelerated internationalization of some firms. In particular, calls to draw upon network theory in IE were made by several researchers (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 upon IE researchers to integrate network theory into existing theories of firm internationalization. Strong international business networks were also 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 should 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 whereby resources can be gained without incurring huge investments providing a way to maximise adaptability to its environment (Larson 1992). For example, studies have shown that networks were 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).

The role of opportunities arising from social and business networks has 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 often unsystematic internationalization behavior has received scant attention in the existent 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 saw the opportunity to approach 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 leads to presence in international markets (McDougall and Oviatt 2003). By conceptualizing internationalization as an entrepreneurial process in investigating how entrepreneur-centred 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 wider social and business context whereby “*the entrepreneur enacts their organizing context (network) to [...] managing 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 so doing, we are able to trace how different parts of networks are activated at different stages to accommodate different requirements of the firm. Further, this partly addresses an explicit call by Coviello and Munro (1995, 1997)

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 networks play 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), the number of case sites was specified prior to the initiation of the research, and four case sites were selected.

Case Selection

Participating companies (summarised in Table 1) were purposely selected to a specified criteria. Firstly, 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. 2). Secondly, 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 old. Finally, companies must be born global, which requires that it had to initiate its international activities within the first three years of inception (Coviello 2006; Knight, Madsen and Servais 2004).

[INSERT TABLE 1 ABOUT HERE]

Case 1: Co X1 produces an online accounting system designed specifically for SMEs.

The system is designed to connect business owners, staff, bookkeepers, accountants, and other financial advisors to the same financial system over the internet employing the *software as a service* (SaaS) model. Co X1 was born out of the frustration felt by a software entrepreneur and a specialist small business accountant at being unable to find a simple and affordable accounting product for small and medium-sized business. 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. X1'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, 1 has solidly established itself in the New Zealand market by forming strategic relationships with major New Zealand banks and the accounting community. They have successfully entered the UK market and initiated entry to the Australian market. By August 2008 the firm had over two thousand paying customers and employed 47 employees that develop markets and sell X1 products from offices across New Zealand, the United Kingdom and Australia.

Case 2: Founded in 2006 by two technology entrepreneurs, Co T2 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 T2's product in August 2006 and subsequent company growth and development followed. Since its founding in 2006, the company has developed a number of valuable international partnerships which enabled the company to work on distribution of their hotspot software inside a range of products produced by partners. The company is now an international company with seven employees in its headquarters in New Zealand, and have offices and partners in Australia, Fiji and India.

Case 3: Co S3 is a privately held company specialising in the development of innovative mobile anti-virus applications. The company was established in 2002 by an entrepreneur who, prior to his role as CEO of S3, was involved with the wireless industry as a legal advisor 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 R&D activities. The research and design activities continued throughout 2004. At the beginning of 2005, S3 signed a deal with an Australian mobile operator Optus, and they started work on the development of a personalized mobile application. It was a great success for S3 at that time to conclude this partnership, although there had been product development delays and negotiations took more time than was initially expected. Despite some challenges, the company continues its operations and negotiations with local and international mobile operators to form partnerships. The company now employs five people. S3's product has recently been recognised as one of the top ten products of its kind in the world.

Case 4: Co R4 designs, develops and markets software for self-service artificial intelligence robots. These robots have computational intelligence exceeding that of humans and have useful applications in business, academic, and public service organisations. Looking like humans, speaking many human languages and enabled to provide emotional responses, these robots work as assistant lecturers for universities, sales persons 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 recognised expert in developing high quality software applications and multi-media systems in New Zealand. R4's founder is a computer engineer who migrated to New Zealand in 1990 and completed PhD studies looking at common sense reasoning and ways of teaching robots to make 'common sense' judgements. At the time, the founder began collaborating with the Electrical Engineering department at the University of Arizona to create 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 design of complex high quality multimedia systems. In 2002, the company started the development of multimedia robots and in 2004 R4 was formed as a separate company focusing on artificial intelligence production. Currently the company has a presence in the United Kingdom and Australia In addition to its New Zealand market.

Data Collection and Analysis

The main data was collected through recorded semi-structured interviews that were conducted with one founder/entrepreneur from each case firm. Where the company had multiple founders, we interviewed the founder/entrepreneur responsible for decisions relating to the international involvement of the firm. This satisfies the criteria that the informant must

be an influential, prominent, and well informed person in the organization selected on the basis of their expertise in areas relevant to the research (Marshall and Rossman 1995). A total of four interviews lasting up to two hours were conducted.

A case study protocol was established to ensure that similar procedures were followed for all interviews (Yin 1988). General topic areas were forwarded to the informants prior to the interview to allow for preparation, and an interview protocol was used in all interviews 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, archival data was sought comprising of planning documents, internal reports, and other relevant records. We also sourced secondary published data mainly from the web, business and trade press. Multiple sources of data are used to reduce the potential for bias that could occur through inadequately documented evidence and poor recall or articulation in the interviews. The summary of the collected supplemental documents for each case is presented in Table 2.

[INSERT TABLE 2 ABOUT HERE]

Following Yin's (1988) recommendations, a database of all recorded interviews, transcripts, and notes made from examination of various documents was maintained for analysis. Data analysis was structured along three steps involving firstly a presentation of the case descriptions as a way of organising the key findings; secondly by a within-case analysis and finally a cross-case analyses before drawing the conclusions.

We initially developed case descriptions for organising 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 interview recordings was particularly important to ensure that none of the contextual information, such as intonation, was lost in the transcription. Once the chronology of events was complete, the gaps or points of clarification were identified and secondary sources of data were used. Step two involved within-case analysis performed in an attempt to thoroughly understand case-specific patterns before proceeding to step three involving finding cross-case patterns and differences. The last step was 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 be either directly observable in the information or underline certain aspects of a phenomenon (Boyatzis 1998). We used three criteria for identification of themes (Morse and Leitch 2002): (1) recurrence of meaning; (2) repetition of the same text/data; and (3) text salient to the research topic. Codes were established as a result of development, re-development 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 organise text according to themes (Taylor and Bogdan 1998).

FINDINGS

We find that each of our participating firms was established by entrepreneurs who had international and/or global focus from their inception. Motives for internationalization among these entrepreneurs originated from their intention to seize international market opportunities. The foundations for early internationalization were embedded in their firm's strategies based on innovative products and developed in response to identified global needs right from the start. It appears the founders/entrepreneurs had first recognized the need (e.g. wifi hot spots)

and then established a company around these products. In addition, there emerged a strong ‘aspirational’ aspect to the foundation of the companies, that is to show that it is possible to build a global business from anywhere in the world. A summary of the evidence that illustrates the presence of global focus from the outset among entrepreneurs is presented in Table 3.

[INSERT TABLE 3 ABOUT HERE]

Our 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 businesses 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 where 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.”

All the participating firms in the study have expanded their domestic operations offshore. These expansions were indeed facilitated by the founder’s networks be they deliberate or serendipitous occurrences such as the encounter depicted below that led to their quick entry into the Australian market.

“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."

Based on our observations, we developed a network-based internationalization model illustrated in Figure 1 showing how networks influence the internationalization process. 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 whereby old and new contacts/actors become significant partners in the subsequent exploitation of internationalization opportunities. We structure the findings according to this framework.

[INSERT FIGURE 1 ABOUT HERE]

Exploration of Internationalization/Global Opportunity

There is a strong belief among all the participants in the importance of global commercial activities and that opportunities exist for entrepreneurial individuals/firms to explore these activities. These entrepreneurs were willing to search for such opportunities and on many occasions, past and present contacts were largely influential in the process. In particular, these contacts exerted a significant influence on first foreign market selection. In these cases, foreign market entry depended on the location of the entrepreneur's personal networks, rather than on a systematic evaluation of alternative opportunities such as market research or competitive analysis.

The discussion of the role of networks in the internationalization process as experienced by our participating firms require acknowledgement that different types of networks were used by each firm. We find that the entrepreneurs actively sought to utilize networks as they explore opportunities. Although there appears to be different forms of networks used, these can be classified according to their associations and could either be social connections or business contacts. Personal contacts often provide serendipitous information or become conduits that facilitate introductions to other actors.

Further, we find that these networks are very dynamic such that compositions change as they pursue further internationalization. Whereas social networks do tend to be informal relationships, and many remain so, they are also a hotbed for partnerships and collaboration where suitable actors become part of the entrepreneur's business network. Given this, it is worth noting that while our participants continually tap their already established networks they also actively pursue new ones.

"... 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.

Having established that our participants all had global aspirations, we find that the process of exploring global opportunities quickly took off. While they may already have targeted specific countries such as the US and Canada, initial entry was dictated by resources available to them at the time. This required a creative combination of prior knowledge, new information, and external resources and facilitated by their personal networks.

"...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."

Exploitation of Internationalization/Global 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, R4 relied on partnerships to access a partner's sales channels and enjoyed the benefits of their distribution network.

T2 entered into an Original Equipment Manufacturing (OEM) agreement with an Australian internet provider, which, as described in the course of public interview given by T2's founder, *'put T2 in the hands of a global community crying out for hotspots.'* S3 partnered with an Australian operator after failing to find a suitable partner in NZ; and X1 adopted a 'critical partnership strategy', described in the Public Offer document as *"effective partnering programme to sell the [X1] system through its partners."*

Benefits derived from these network-led operations include among others: a) avoiding large foreign market investments; b) reducing uncertainty; c) new product component integration into established products giving instant access to a huge market; d) identifying suitability/application of their products to segments of overseas markets they had no knowledge or access to; e) generating customer demand through the partners' channels; f) providing scalable growth opportunities; and g) lower costs of sale.

In addition to their business contacts, more formal business network actors such as consultants and government contacts were also widely used by the participants. X1 attributes their success in the UK to the networks they accessed through a New Zealand Trade and Enterprise (NZTE) initiated programme, UK Beachhead Program. NZTE established a UK Advisory Board that included a number of well connected and experienced UK-based people who were members of the NZTE Beachheads Board willing to help X1 get into the UK.

“The Beachhead program opens up fantastic networks ... 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.”

Partnerships and co-operative modes continued to be the preferred strategy for subsequent entry to international markets. For example, X1’s strategy for Australia was as in the UK, based on exploitation of partnership opportunities. A sequence of media releases issued by the company confirmed that X1 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 giving it access to thousands of their clients in Australia.

For their Australian entry, R4 opted for a supplier partnership with a large mining company in Australia enabling them to generate sales, while avoiding large foreign market investment and costs associated with establishing a market presence (i.e. staff, office). S3’s global product commercialization strategy was based on the firm’s need to partner with a local mobile operator, thus it made sense for them to find suitable partners in the host country. T2’s strategy for its first international market was to enter into an OEM deal with local internet providers, in which their product was integrated within the partners’ products and distributed through the partner’s channels while retaining its brand. T2 also have a partner in India, but executed a branch office strategy in Fiji, as stated in T2’s marketing plan, was the most efficient and effective way to establish the presence of T2 in this particular market.

In summary, the findings provide evidence that firms tended to rely on partnership 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.

From Social to Business Networks

Our results indicate that social networks are generally used by the entrepreneurs to explore opportunities for internationalization and finding on some occasions that social networks can be an actual source of international opportunity. In addition, serendipitous contacts such as inbound enquiries facilitate subsequent internationalization in a number of instances. Our evidence illustrates that networks exert a significant influence on firms' foreign market selection and entry.

Proposition 1: Established and newly formed personal contacts constitute an entrepreneur's social networks that facilitate exploration of internationalization opportunities.

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; Styles and Ambler 1994, Slotte – Kock and Coviello, 2010). This effect is evident in the case of T2 for whom the decisions about its second and third international markets (including entry mode and timing) were to a great extent influenced by serendipitous encounters. For R4 the process of initial international opportunity exploration was influenced by the 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 believe that the presence of personal networks in foreign markets make it much easier for them to enter such markets.

Proposition2: In pursuing internationalisation, business networks facilitate exploitation of opportunities that lead to successful entry into foreign markets.

The results further suggest that the role of networks in the opportunity exploration process may extend to being an actual source of internationalization opportunity. The effect is evident in the case of R4 for whom social network was an actual trigger for initiating commercialization of the firm's product. For S2, the entrepreneur's knowledge of the Australian market and his previously developed network connections led to a partnership with Australia's largest mobile operator looking for precisely the solution that S2 had developed. Without the existence of networks of relationships this opportunity may not have been available to them.

Proposition3: Actors from an entrepreneur's social network that become a source of information and/or resources leading to the exploitation of internationalization opportunities subsequently become a part of the entrepreneur's wider business network.

In addition to the use of previously developed networks, entrepreneurs also engaged in activities aimed towards developing new networks that would have a potential to assist them with global product commercialization. This is consistent with the "purposeful enactment" factor illuminated by Slotte-Kock and Coviello (2010) where 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 specialised events aimed to assist in the development of networks, such as trade fairs, industry expos and competitions as important events that enabled them to get known in the international arena and develop potential international prospects. In particular, prior to its UK launch, X1 won the Technium

Challenge beating other finalists from China, France and South Africa. The competition was organised by Technium UK and International Business Wales to award one high-growth international technology company a business passport to help them set up in Wales. This accelerated X1's entry into the UK market and was viewed by the founder as an important validation of the UK opportunity.

In addition to international competitions, participation in country-specific industry events generates awareness and future leads. However, while such events are useful, these opportunities may also pose challenges. S2's experience illustrates the financial pressure that the firm was exposed to with new leads while simultaneously 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."

Despite the challenges of managing new business leads, this finding support current literature that confirms the enabling role of networks around international trade shows in the internationalization of small firms (e.g. Shoham 1999, Evers and Knight, 2008). During these events, the entrepreneurs also engaged with external experts to help them to 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.

P4: International trade and industry events enable born global ICT firms to widen their formal business networks and facilitate the exploitation of internationalization opportunities.

DISCUSSION AND CONCLUSION

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. This being so, the process of recognizing/creating the opportunities and the nature of decision making that may account for often unsystematic internationalization behaviour was investigated. The results of this study show that entrepreneurs tend to 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 networks change. The findings provide evidence that in the process of opportunity exploration, born global ICT entrepreneurs may utilise their social networks as information channels through which the firm gains information about international markets and opportunities. We find that in instances where entrepreneurs actively searched for their first opportunities, the decision as to initial international market selection was influenced by the location of their personal networks. The study further suggests that the role of networks extend to being an actual source of internationalization opportunity. In some instances, internationalization opportunities 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 (which looked like serendipity from the firm's own perspective). Further, the entrepreneurs also engage with external experts such as colleagues, consultants, and government agencies to help them to identify or evaluate an opportunity.

IMPLICATIONS AND LIMITATIONS

This study's main contribution relates 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 earlier studies on entrepreneur-centred networks and their role in the internationalization process by providing an insight into the logic behind the non-sequential and non-linear patterns of network-driven internationalization such as accessing prior networks, discovery through the actions of new networks, and the role of serendipitous contacts. With these findings we are consistent with the notion offered in the recent study by Slotte-Kock and Coviello (2010) that 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 towards 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 where 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 see, identify, respond 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 social type of networks to more calculative or business types of networks that tend to develop towards 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 “*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 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 they enter their first foreign market.

It can generally be concluded 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 globally commercialize technological innovation need to incorporate a considered 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, focus their efforts toward their development in markets where they potentially want to expand. Additionally, entrepreneurs can generate internationalization opportunities through industry events such as conferences and tradeshow.

Although this paper offers some contributions, as with any study it is not without limitations. The study is undertaken in a narrowly defined industry context (New-Zealand based internationally focused ICT firms), and only considers firms that can be classified as knowledge intensive with advanced capabilities in technology and an educated workforce. Despite the fact that 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 other limitation that restricts the interpretation of these findings is the number of cases studied, which is limited to four, selected according to very particular criteria. Selection

of a greater number of cases might give 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 those firms that qualified for the study and were willing to participate were interviewed. Therefore, generalisations 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.

For Peer Review

REFERENCES

- Alahuhta, Matti (1990), *Global Growth Strategies for High-technology Challengers*. Helsinki: Acta Polytechnica Scandinavica, Electrical Engineering Series, 66.
- Aldrich, Howard E. and Catherine, Zimmer (1986), "Entrepreneurship Through Social Networks," in *The Art of Science of Entrepreneurship*, D.L. Sexton and R.W. Smilor, eds. Cambridge, Massachusetts: Ballinger, 2–23.
- Axelsson, Björn (1992), "Corporate strategy models and networks – diverging perspectives," in *Industrial Networks: A New View of Reality*, B. Axelsson, and G. Easton, eds. London: Routledge, 184-204.
- Bartlett, Christopher A. and Sumantra Ghoshal (1991), *Managing across borders: The transnational solution*. Boston: Harvard Business School Press.
- Bell, Jim (1995), "The Internationalization of small computer software firms: A further challenge to stage theories," *European Journal of Marketing*, 29(8), 60-75.
- Bell, Jim, Rod McNaughton, and Stephen Young (2001), "Born-again global firms: An extension to the Born Global phenomenon," *Journal of International Management*, 7, 173-189.

Blankenburg-Holm, Desirée, Kent Eriksson, and Jan Johanson (1996), "Business Networks and Cooperation in International Business Relationships," *Journal of International Business Studies*, 27 (5), 1033-53.

Blomstermo, Anders and D. Deo Sharma (2003), *Learning in the Internationalization Process of Firms*. Northampton, MA: Edward Elgar Publishing.

Blomqvist, Kirsimarja (2002), "Partnering in the Dynamic Environment: The Role of Trust in Asymmetric Technology," doctoral thesis, Lappeenranta University of Technology, Lappeenranta.

Boyatzis, Richard E. (1998), *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks: CA, Sage.

Brynjolfsson, Erik and Lorin M. Hitt (2000), "Beyond computation: information technology, organizational transformation, and business performance," *Journal of Economic Perspectives*, 14 (4), 23-48.

Chetty, Sylvie K. and Heather Wilson (2003), "Collaborating with competitors to acquire resources," *International Business Review*, 1 (12), 61-81.

Cooper, A. (1981), "Strategic management: New ventures and small business," *Long Range Planning*, 14(5): 39-45.

Coviello, Nicole (2006), "The network dynamics of international new ventures,"

Journal of International Business Studies, 37, 713–731

Coviello, Nicole and Andrew McAuley (1999), "Internationalization Processes and the Smaller Firm: A Review of Contemporary Empirical Research,"

Management International Review, 39(3), 223-56.

Coviello, Nicole and Hugh Munro (1995), "Growing the entrepreneurial firm: networking for internal market development," *European Journal of Marketing*, 29 (7), 49-61.

Coviello, Nicole and Hugh Munro (1997), "Network Relationships and the Internationalization Process of Small Software Firms," *International Business Review*, 6(4), 361-386.

Crick, Dave and Martine Spence (2005), "The internationalization of 'high performing' UK high-tech SMEs: a study of planned and unplanned strategies," *International Business Review*, 14, 67-85.

Eisenhardt, Kathleen M. (1989), "Building Theories from Case Study Research," *Academy Of Management Review*, 14(4), 532-550.

Elfring, Tom and Willem Hulsink (2003), "Networks in entrepreneurship: the case of high-technology firms," *Small Business Economics*, 21, 409-422.

Eriksson, Kent and Jan Johanson (1997), "Experiential Knowledge and Cost in the Internationalization Process," *Journal of International Business Studies*, 28, 337-360.

Evers, Natasha and John Knight (2008), "Role of international trade shows in small firm internationalization: a network perspective," *International Marketing Review*, Vol. 25 Iss: 5, 544 – 562.

Forsgren, Mats (1989), "Foreign Acquisitions: Internalization or Network Interdependency?" in *Advances in International Marketing*, L. Hallén and J. Johanson, eds. Greenwich, Conn: JAI Press

Freeman, Susan, Kate Hutchings, Miria Lazaris, Suzanne Zyngier (2010), "A model of rapid knowledge development: The smaller born-global firm," *International Business Review*, 19, 70-84.

Glaser, Barney G. and Anselm L. Strauss (1967), *Discovery of Grounded Theory*. Chicago: Aldine.

Granovetter, Mark (1985), "Economic action and social structure: The problem of embeddedness," *American Journal of Sociology*, 91(November), 481-510.

Hoang, H. and Antoncic, B. (2003), "Network-based research in entrepreneurship: A critical review," *Journal of Business Venturing*, 18/2, 165-187.

Johanson, Jan and Lars-Göran Mattsson (1988), "Internationalization in Industrial Systems – A Network Approach," in *Strategies in Global Competition*, N. Hood and J.E. Vahlne, eds. New York: Croom Helm, 87-314.

Johanson, Jan and Lars-Göran Mattsson (1992), "Network Positions and Strategic Action: An Analytical Framework," in *Industrial Networks: A New View of Reality*, B. Axelsson and G. Easton, eds. London: Routledge, 205-217.

Johanson, Jan and Jan-Erik Vahlne (2003), "Business relationship learning and commitment in the internationalization process", *Journal of International Entrepreneurship*, 1, 83-101.

Johnson, Jeffrey E. (2004), "Factors Influencing the Early Internationalization of High-technology Start-ups: US and UK Evidence," *Journal of International Entrepreneurship*, 2 (1), 139-154

Jones, Marian V. (1999), "The Internationalization of Small High-Technology Firms," *Journal of International Marketing*, 7(4), 15-41.

Kelly, Stephen (2000), "The Role of Relationship Marketing and Networking in Foreign Market Entry and Sustained Competitiveness by Australian SMEs," in *Advances in International Marketing and Global Strategy*, G. Ogunmokun and R. Gabbay, R, eds. Academic Press International.

Knight, Gary and Tamer Cavusgil (1996), "The Born Global Firm: A Challenge to Traditional Internationalization Theory," *Advances in International Marketing*, 8, 11-26.

Knight, Gary, Tage Koed Madsen, and Per Servais (2004), "An inquiry into born-global firms in Europe and the USA," *International Marketing Review*, 21(6), 645-665.

Larson, Andrea (1992), "Network dyads in entrepreneurial settings: A study of the governance of exchange relationships," *Administrative Science Quarterly*, 37, 76-104.

Larson, Andrea and Jennifer A. Starr (1993), "A Network Model of Organization Formation," *Entrepreneurship: Theory and Practice*, 18, 5-15.

Litvak, Isaiah A. (1990), "Instant international: strategic reality for small high-technology firms in Canada," *Multinational Business*, 2, 1-12.

Mainela, Tuija (2002), "Networks and Social Relationships in Organizing International Joint Ventures. Analysis of the Network Dynamics of a Nordic-Polish Joint Venture," doctoral dissertation, Department of Business Administration, University of Vaasa, Finland.

Marshall, Catherine and Gretchen Rossman (1995), *Designing Qualitative Research*, 2d ed. Newbury Park: Sage.

- McDougall, Patricia P., Scott Shane, and Benjamin M Oviatt (1994), "Explaining the Formation of International Business Ventures: The Limits of Theories from International Business Research," *Journal of Business Venturing*, 9(6), 469-487.
- Motion, Judy and Shirley Leitch (2002), "Technologies of corporate identity," *International Studies of Management and Organisations*, 32 (3), 45-64.
- Nummela, Niina. (2002), "Change in SME internationalization. A network perspective," proceedings of the *28th EIBA Conference*, Athens (December 8-10).
- O'Donnel, A., Gilmore, A., Cummins, D, and Carson, D. (2001), " The network construct in entrepreneurship research: A review and critique," *Management Decision*, 39 (9), 749-760.
- O'Farrell, Patrick N and Peter A.Wood (1999), "Formation of strategic alliances in business services: Towards a new client-oriented conceptual framework," *The Service Industries Journal*, 19 (1), 133-151.
- Oviatt, Benjamin M and Patricia P. McDougall (1994), "Toward a Theory of International New Ventures," *Journal of International Business Studies*, 25 (1), 45-64.

- Oviatt, Benjamin M and Patricia P. McDougall (1995), "Global Start-Ups: Entrepreneurs on a Worldwide Stage," *Academy of Management Executive*, 9(2), 30-44.
- Oviatt, Benjamin M and Patricia P. McDougall (1997), "Challenges for Internationalization Process Theory: The Case of International New Ventures," *Management International Review*, 37(2), 85-99.
- Servais, Per and Erik Rasmussen (2000), "Different types of international new ventures," paper presented at the Academy of International Business (AIB) Annual Meeting, Phoenix, AZ., USA (November, 1-27).
- Sapienza, Harry J., Erkkö Autio, Gerard George and Shaker Zahra (2006), "A capabilities perspective on the effects of early internationalization on firm survival and growth," *Academy of Management Review*, 31 (4), 914-933.
- Shoham, A. (1999), "Performance in trade shows and exhibitions: a synthesis and directions for future research," *Journal of Global Marketing*, 12 (3), 41-57.
- Slotte-Kock, S. and Coviello, N. (2010), "Entrepreneurship research on network processes: A review and ways forward," *Entrepreneurship Theory and Practice*, 34 (1), 31-57.
- Smallbone, David and David North (1995), "Targeting Established SMEs: Does Their Age Matter?" *International Small Business Journal*, 13, 47-64.

Spence, Martine and Dave Crick (2006), "A Comparative Investigation into the Internationalization of Canadian and UK High-Tech SMEs," *International Marketing Review*, 23(5), 524-548.

Starr, J. and W. Bygrave, (1991), "The assets and liabilities of prior start-up experience: An exploratory study of multiple venture entrepreneurs," *Frontiers of Entrepreneurial Research*. N. C. Churchill, WD Bygrave, JG Covin, DL Sexton, DP Slevin, & WE Wetzel. Wellesley;MA, Babson College: 213-227.

Taylor, Steven J. and Robert Bogdan (1998), *Introduction to qualitative research methods*, 3d ed. New York: John Wiley.

The Norwegian Industrial and Regional Development Fund. (1995), "Business Network Manual: a tool for developing business cooperation," report, The Norwegian Industrial and Regional Development Fund.

Welch, Lawrence S. (1992), "The Use of Alliances by Small Firms in Achieving Internationalization," *Scandinavian International Business Review*, 1 (2), 21-37.

Wilson, David T. and Venkatapparao Mummalaneni (1990), "Bonding and commitment in buyer-seller relationships: a preliminary conceptualization," in *Understanding Business Markets*, D. Ford, ed. London: Academic Press, Harcourt Brace Jovanovich, 408-20.

Yin, Robert K. (1988), *Case study research: Design and methods*. Beverly Hills:

CA, Sage.

Vesper, K. (1980), *New Venture Strategies*. Englewood Cliffs, Prentice-Hall.

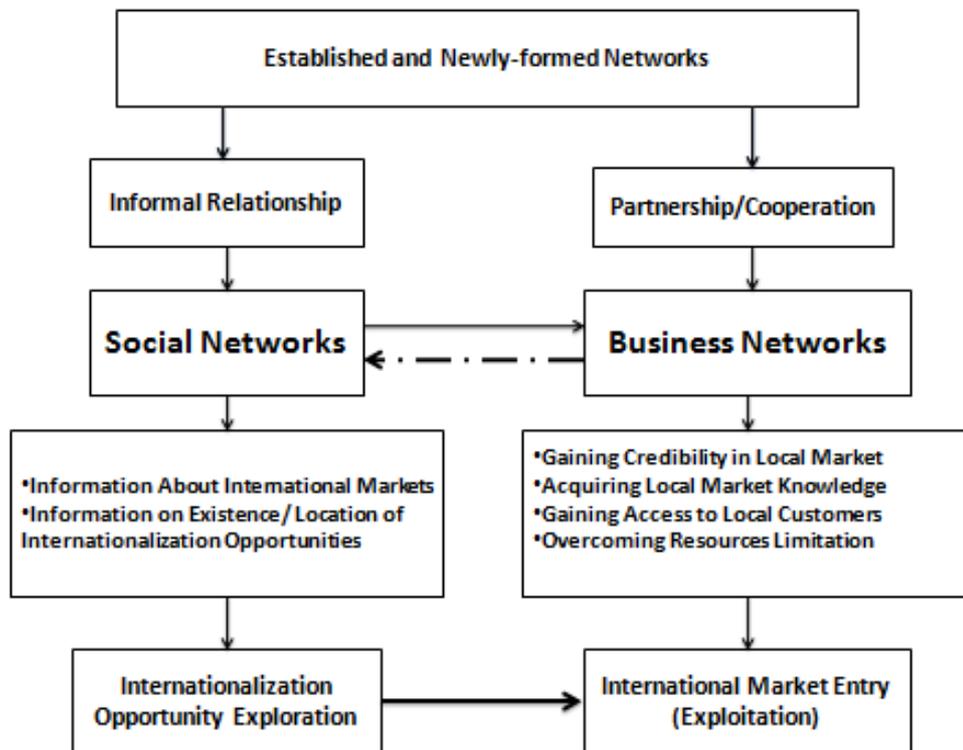
For Peer Review

Co	Description	Age (years)	Founders	Governance Structure	Employee numbers	Overseas markets
X1	Online accounting software	2 (2006)	3	Public	47	UK (2008) Australia (2008)
T2	Wi-fi hotspot software	2 (2006)	2	Private	7	Australia (2007) Fiji (2008) India (2008)
S3	Phone back up	6 (2002)	2	Private	5	Australia (2005)
R4	Artificial intelligence software	4 (2004)	1	Private	16	Canada (2006) Australia (2007)

Company	Internal Documents (quantity)	Published Materials (quantity)
X1	Public Offer Document (1)	<ul style="list-style-type: none"> • Company website (1) • Press releases/media statements (14) • Public Presentations notes and slides (1)
T2	Marketing Plan (1)	<ul style="list-style-type: none"> • Company website (2) • Press releases/ Media Statements (9) • Founders Interviews in press (1)
S3	Marketing Plan (1)	<ul style="list-style-type: none"> • Company website (1) • Press releases (4) • Founders Interviews in press (2)
R4	Marketing Plan (1)	<ul style="list-style-type: none"> • Company website (1) • Promotional case studies (2) • Press releases (4) • Speech to Investors (1)

Table 3: Evidence for the presence of global focus from inception among case firms

Co	Core business	Quote
X1	<i>SME accounting software</i>	<i>“We conceived [X1] as a global company from day 1... so right in the original R & D process one of the core requirements was build a platform that could work, work minimal extra effort in multiple countries.</i>
T2	<i>Wi-fi hotspot software</i>	<i>“Our whole business intention was to be international, not a New Zealand company. So the moment that we started business we said: right, who do we need to talk to in the key markets? Which key markets do we want to go to?”</i>
S3	<i>Phone back-up</i>	<i>“We never really set up the company to be a New Zealand company because there’s only 2 mobile operators. I mean if your customer is a mobile operator and you’ve only got 2 possible customers, you can’t really say ‘well we’re focused on just 1 country’. You’ve got to start off and say ‘well we’re pretty much focused on the whole world’.</i>
R4	<i>Artificial intelligence/robotics</i>	<i>We are living in an island, it’s too small, it’s not even a city. Four million people is too small. [...] E-learning, is a large [global] market and there are tons of people working in it already. Ninety billion dollar a year companies are already making [products] and they are boring you know. Their initial e-learning courses are boring. So we are adding [an] intelligent human teacher with the course so our goal was integrating these robots with all the e-learning companies.</i>

Figure 1. NETWORK-BASED INTERNATIONALIZATION MODEL

Review

Detailed responses to the editor and reviewers' comments

JIM-10-0134, entitled "The Role of Entrepreneurial Networks in the Internationalisation of ICT Firms," to the Journal of International Marketing.

R&R Decision: 6 January 2011

R&R Due: 6 April 2011 with extension from the editor

<p align="center">Editor's Comments:</p> <p><i>Please be sure to provide a detailed, point-by-point to the reviewer(s)' comments either in the available text box or in a separate document. You should also document any changes you make to the original manuscript.</i></p>	<p align="center">Responses</p>
<p>The study needs to be repositioned based upon the extant literature. As noted by the reviewer, the contribution as currently stated is not new as there has been much research engaged in this topic. To more appropriately position the manuscript (which I believe can be successful accomplished), the breadth of currently literature on networks, internationalization and entrepreneurship must be incorporated. By fully integrating the extant literature the unique contribution of this work will be identified within the contemporary research context.</p>	<p>Many thanks for this encouragement. We have incorporated a number of new papers into the literature and identified/positioned the study within the internationalization opportunity process (Slotte-Kock and Coviello 2010) while also heeding the call for more qualitative network research (Hoang and Antoncic 2003) as experienced by smaller (ICT) firms.</p>
<p>Theoretically, stronger conceptualization and delineation of constructs, in light of contemporary literature, is needed.</p>	<p>We have incorporated O'Donnell et al. (2001) and Sapienza, et al. (2006) in addition to the above papers. Very recent literature is also cited (Freeman, et al. 2010) that strengthens the literature on born global firms. We have also added literature on trade shows and industry events.</p>
<p>Much greater detail must be provided pertaining to the data collected and its analysis. What specific supplemental documents were collected. How many of each document was collected? How long were the interviews? Were all 8 founders interviewed? When from the same firm were the interviewed together or alone? How was all of the data specifically analyzed (more specificity is needed than is provided on pages 14 and 15).</p>	<p>A greater detail has been provided pertaining to the data collected and its analysis. Specifically:</p> <ul style="list-style-type: none"> • A summary table with overview of type and quantity of supplemental documents collected for each case firm has been added Detail pertaining to the interview process was provided, including interview duration, interview process per se, information on how many founders have been interviewed and why

	<ul style="list-style-type: none"> Data analysis process was specified with more details provided on the analysis process and methods employed
Greater integration of all of the data collected and analyzed should be presented in support of the findings. In the present study, reliance is almost solely on the interviews.	The data derived from the supplemental documents has been integrated throughout the findings section in support of the findings.

Reviewer: 1 Comments to Author	Authors' Responses
<p>The authors investigate the role of entrepreneurial social and business networks in the internationalization of NZ high-technology firms. Subsequently they derived a model of network-based internationalization which explains how social networks initiate business networks and help explore and exploit internationalization opportunity.</p> <p>While this paper addresses some interesting issues, I have major concerns that need to be addressed before this paper can be considered for publication.</p>	<p>We thank Reviewer 1 for these helpful comments and we have addressed all the points raised. The paper is now much tighter.</p> <p>We have addressed all of R1's concerns and we are hopeful that these changes are satisfactory for the publication of the paper.</p>
<p>Title. First of all, the title of the paper doesn't clearly reflect the focus of the study. Since the study explicitly includes internationalization opportunity exploration and exploitation, it would be better to afford the term 'opportunity' in the title.</p>	<p>We have revised the title to: The Role of Entrepreneurial Networks in the Exploration and Exploitation of Internationalisation Opportunities by ICT Firms</p>
<p>Background Literature. Page 5 in subsection 'Social and Business Networks'-Introductory 1st paragraph should define both types of networks or at least give an idea to the readers that both would be discussed subsequently. Even the authors discussed the utility of two kinds of networks, the role of social networks on page 6 (second paragraph: at the earlier stages) and that of business networks on</p>	<p>This is very helpful indeed! The section now starts with a paragraph that introduces and broadly defines social and business networks. A more detailed discussion then follows and presents the links between the two network types. This section is now easier for the reader to follow.</p>

<p>page 7 (1st paragraph: at international opportunity exploitation stage). They could be first mentioned in the same paragraph and then could follow the subsequent analysis which would make the analysis much easier to follow for the readers.</p>	
<p>The distinction between social and business networks is not well articulated in the discussion. The authors provide a definition of business networks but no clear definition of social networks is provided. Even after the definition of business networks we expect some more explanation on it. Some additional discussion from Hoang and Antoncic (2003), Slotte-Kock and Coviello (2010), and O'Donnell et al. (2001) would make it clearer.</p>	<p>Definition of social networks has been added and integrated into the paper.</p>
<p>Findings. It seems odd when the authors started findings section with a quote from a participant. Rather use of more general explanation followed by the quote would make it more interesting. Figure 1 has been placed in the same paragraph as the whole discussion is based on this derived figure. However, first the presentation of general findings and then the discussion on how the authors derived the model would make the paper more appealing. Even the model is not well analyzed or explained in a single section or paragraph.</p>	<p>We have removed the quote from the beginning of the findings section and built in more discussion of the results.</p> <p>The figure is now preceded by a general illustration and brief discussion of how the model is conceptualised. We have also revised the figure to reflect the added definition of social and business networks.</p> <p>As the organising framework for reporting the findings, the results are presented in reference to the processes being investigated.</p> <p>These changes have made the paper tighter and positioned better.</p>
<p>1st part of the findings (page 15-17) includes so many quotes but only short subsequent discussion. Less quotes and more analytical discussion would have increased the quality of the paper</p>	<p>We have removed/shortened many of the quotes and added more analytical discussion to the findings.</p>
<p>On page 17 the authors stated that the size of the domestic market and the global nature of the tech industry influenced the case companies to internationalize. The second paragraph in Introduction addressed the issue of global nature of the industry; however, we didn't have any idea of the size of the domestic market in</p>	<p>We present this argument on the premise that New Zealand with a population of 4 million people is by all account only a small economy. Having said that, it is a big player in some industries (e.g. Fonterra is the 2nd largest dairy company next to</p>

Introduction or elsewhere. Moreover, we don't know whether it is typical or exceptional to go international from inception due to small domestic market.	Nestle). NZ companies therefore aim to go offshore as quickly as possible as the domestic market does not take long to be saturated.
The subsection "Exploitation of Internationalization" explains that formal business networks such as consultants and government contacts were also widely used by the participants (last paragraph on page 19). This finding contradicts the earlier discussion that formal business networks are used at later stages. The authors did not clarify this contradiction and possible reasons behind this.	Our conceptualisation differentiates exploration at the early stages from the exploitation that occurs at the later stages of internationalisation. The discussion on formal business contacts is in the exploitation (not exploration) section which is what we refer to as the later stages. We have attempted to make this distinction clearer in the discussion.
On page 20 in the last paragraph the authors summarized that depending on the firms' needs and the characteristics of the products, the requirements for partners varied, and different forms of partnerships were used by the firms. However, this is not well reflected in the preceding discussion of the section.	This refers to the discussion in the preceding paragraphs that talked about "critical partnership strategy" and other forms of cooperative modes such as 'supplier partnerships.'
The subsection "From Social to Business Networks" doesn't reflect how social networks lead to business networks and the transition from social to business network is not also clear. The same problem prevails in other sections of the paper too. The last quote seems disjoint with the preceding paragraph since it is not clear whether the firm attended industry events. Again, the requirement of having 'spare capacity' related discussion is not relevant in this subsection.	We have provided evidence here that personal contacts often facilitate introductions to "others" and become partners in the firms as in the case of R2. There has been a better integration of results into the general discussion that has substantially improved the paper. We have made the section on industry events clearer by explaining how leads from such events have impacted on growth leading to cash flow issues.
The authors identified that trade fairs and industry expos were helpful in opportunity identification (p. 22, 1st paragraph). Although there exists large body of literature on export promotion through trade fairs and expos, the authors did not specify any reference which could strengthen their findings.	Findings on the role of trade fairs and international expos have been strengthened with references from the literature on export promotion (i.e. Shoham 1999, Evers and Knight, 2008). Please refer to pages 2 and 26.
Discussion and Implication On page 25, the authors emphasized the role of previously established entrepreneurial networks in identification of opportunities which indicates the role of prior experience of the entrepreneur in the	Many thanks for this insightful suggestion. Indeed there is body of literature on experience. We have incorporated the following paper Vesper (1980), Cooper, A.

<p>industry. A large body of literature also exists on the role of prior knowledge or experience or previously established relationships in entrepreneurship literature which is not mentioned here.</p>	<p>(1981) and Starr & Bygrave (1991) into the paper and linked them to networks. Please see p.5.</p>
<p>References Hoang, H. and Antoncic, B. (2003). Network-based research in entrepreneurship: A critical review, <i>Journal of Business Venturing</i>, 18/2, 165-187.</p> <p>O'Donnel, A., Gilmore, A., Cummins, D, and Carson, D. (2001). The network construct in entrepreneurship research: A review and critique, <i>Management Decision</i>, 39/9, 749-760.</p> <p>Slotte-Kock, S. and Coviello, N. (2010). Entrepreneurship research on network processes: A review and ways forward, <i>Entrepreneurship Theory and Practice</i>, 34/1, 31-57.</p>	<p>Thank you too for these recommended papers. They were very valuable in positioning our paper.</p>

Reviewer: 2 Comments to the Author	Author responses
<p>This is a well-written and interesting manuscript that describes an important problem facing technology-focused SMEs. These firms often need to explore global opportunities to survive. Networks provide mechanisms enabling and guiding these activities. The case for network development by born global firms has been made very well. The suggestion that both social and business networks are needed for different phases of globalization is an insight. It is interesting that they contribute in different ways, and at different times, to the global expansion process. Insights like this need to be built on.</p>	<p>We thank reviewer 2 for this encouraging observation.</p>
<p>What this manuscript is missing is insightful description of outcomes that can be expected from different network arrangements and relationship building. It</p>	<p>We have integrated these papers into the literature (p.2) and have reported outcomes in terms of the benefits that have</p>

<p>would help to explicate the type of learning that takes place, and explore the role of knowledge being generated (Freeman et al, IBR, 2010). Further understanding how capabilities are affected (Sapienza et al, AMR, 2006) would provide an important contribution to the global marketing literature.</p>	<p>been derived from these network-led activities (p.23)</p>
<p>A paper that provides propositions would explore these types of relationships. The raw material is here -- a reasonable literature review and rich case material. Intuitive development of connections between actors, capabilities, knowledge transfer, and strategic outcomes promises a stronger contribution in moving this program of research along. Both sides of the relationship dyad should be considered.</p>	<p>We have incorporated a number of propositions based on the findings and the model and we thank reviewer 2 for this suggestion. We have also noted the suggestions on how to move the research forward in the implications and limitations section.</p>