

An examination of the critical resources and Internet capabilities for leveraging global performance in international entrepreneurial firms.

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STATEMENT OF ORIGINAL AUTHORSHIP

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

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GLOSSARY OF KEY TERMS

IBE*	International business experience
IE	International entrepreneurship
IEO*	International entrepreneurial orientation
IEOR*	International entrepreneurial opportunity recognition
IIMC*	Internet, international marketing capabilities
IMP*	International market performance
IVNC*	International virtual network capabilities
RBV	Resource-based view
SMEs	Small and medium sized enterprises
TRIV*	Technology-related international vision

*Note. *The key glossary terms noted here are utilised only from Chapter Six onwards, where quantitative codes require the use of minimal labels.*

ABSTRACT

The Internet is a critical resource for a new generation of small and medium sized enterprise. Specifically, the Internet is important for small entrepreneurial firms in pursuing international opportunities through increased digital integration. As such, the Internet has been identified as a key enabler of international entrepreneurship (IE) (Reuber & Fischer, 2011). By facilitating international business for many entrepreneurial SMEs, the Internet has the ability to increase the quality and speed of communications (Prasad, Ramamurthy & Naidu, 2001; Gabrielsson & Manek Kirpalani, 2004), lower transaction costs (Lohrke, Franklin & Frownfelter- Lohrke, 2006), and facilitate the development of international networks (Morgan-Thomas, 2009). Despite the increasing numbers of entrepreneurial firms utilising the Internet to pursue international business (Reuber & Fischer, 2011), the literature has paid limited attention to firms operating in an Internet environment.

When firms extend their international activities, they often accumulate resources and capabilities to improve their international performance. Although the resource-based view has previously been applied to studies investigating the Internet's impact on IE, most research (e.g. Loane, 2006; Mostafa, Wheeler & Jones, 2006) only identifies the conceptual links between the application of the Internet and the factors that may influence firm performance. As such, no one model examines the specific links between resources, Internet capabilities and international performance. Therefore, this research examines the link between the international performance of firms and their Internet-related capabilities through the lens of a resource and capabilities approach as recently suggested by Glavas and Mathews (2014a). To investigate the phenomenon of the Internet's impact on international firm performance, a two-study approach was adopted to investigate two research questions: (RQ1) '*What are the firm-level resources and Internet, international marketing capabilities of firms, and how do they influence international performance?*' and (RQ2a), '*What is the relative influence of firm-level resources and Internet, international marketing capabilities on international performance?*' Research studies also identify the international entrepreneur as a potential catalyst for driving Internet-

generated internationalisation (Loane, 2006; Loane & Bell, 2006), but neglect the entrepreneur's role in exploiting resources and capabilities for international performance. Therefore, research question (RQ2b) seeks to investigate: '*How do international entrepreneurs leverage Internet, international marketing capabilities for international performance?*'

In Study One, twelve international entrepreneurial firms engaged in international business activity were investigated using case study methodology. The findings from Study One indicate that international entrepreneurial orientation is a critical element for firms in identifying new international opportunities, and for leveraging capabilities for international performance. This key finding supports Wiklund and Shepherd's (2005) suggestion that resources are relevant for enacting entrepreneurial orientation, and that the strength of a firm's performance relies on the resources of the firm.

In Study Two, a quantitative confirmatory approach was utilised to test the inter-relationships identified in the model of 'Capabilities in IE'. Modelling of the data revealed a mediated model, indicating that resources (international entrepreneurial orientation) can, in combination with other capabilities (international entrepreneurial opportunity recognition and Internet, international marketing capabilities) predict how international performance is achieved.

The research findings extend the literature by firstly examining the influence of Internet capabilities on IE. Secondly, the findings provide an understanding of how Internet capabilities can be characterised, and how they influence international performance. Thirdly, the findings highlight the positive influence of the international entrepreneur in exploiting resources and Internet capabilities. For practitioners, this thesis provides managers with a strategy tool that can be utilised to reconfigure existing resources and capabilities, and that also identifies the levels of international innovativeness required for international performance. The thesis also highlights the need for international entrepreneurs to recruit employees with an international entrepreneurial orientation.

KEY WORDS

Internet, international marketing capabilities, international entrepreneurship, resource-based view, small and medium sized firms.

PUBLICATIONS

Journal articles

Glavas, C, R., Mathews, S. (2014). How international entrepreneurial characteristics influence Internet capabilities for the international business processes of the firm? *International Business Review*, 1(23), 228-245.

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CHAPTER ONE: INTRODUCTION

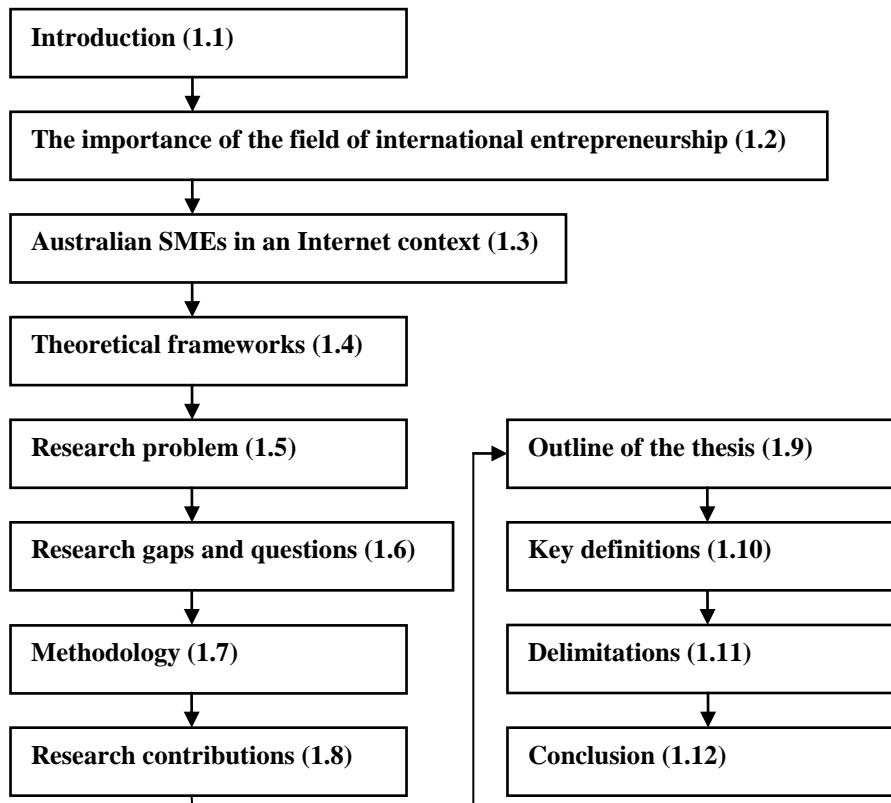
1.1 Introduction

It is widely recognised that the Internet has been one of the most important tools for modern-day international business (see, Petersen, Welch & Liesch, 2002; Loane, McNaughton & Bell, 2004; Mathews & Healy, 2007). For example, the Internet has enabled international firms to improve the efficiency of international market transactions (Prasad et al., 2001; Gabelsson & Manek Kirpalani, 2004; Loane et al., 2004), improve the speed and quality of communications (Reuber & Fischer, 2011), and assist in the development and strengthening of international network relationships (Petersen et al., 2002; Morgan-Thomas, 2009; Overby & Servais, 2005). In particular, the Internet has played a valuable role in providing small to medium sized enterprises (SMEs) new ways to conduct international business through faster access to market and competitor information (Mathews & Healy, 2007). Subsequently, SMEs now have a greater ability to take advantage of international opportunities (Mathews, Healy & Wickramasekera, 2012).

Despite the increased research interest of the Internet's impact on firm internationalisation, there is limited empirical evidence examining the relationship between the Internet and a firm's international performance (Prange & Verdier, 2011). To date, the majority of research (see, Aspelund & Moen, 2004; Mostafa et al., 2006), identifies links between the Internet and the factors that may influence international performance, although no one model holistically examines the specific factors which lead to performance outcomes. With the exception of a small number of studies (Morgan-Thomas & Bridgewater, 2004; Loane 2006; Mostafa et al., 2006; Reuber & Fischer, 2011), researchers have paid limited attention to the influence of Internet on the international entrepreneurial performance of firms. As a consequence, recent research (see, Reuber & Fischer, 2011; Glavas & Mathews, 2014a) suggests the need to investigate the firm's international performance through the lens of the resource-based view (RBV) and capability view of the firm.

Chapter One commences with a discussion of the research background, including the importance of the field of international entrepreneurship (IE) and the use of the Internet within Australian SMEs. The key theoretical frameworks are discussed, followed by the research problem. The research gaps and questions are then identified. A two-study approach to address the research questions is then outlined, followed by the research contributions and overall outline of the thesis. The key definitions utilised throughout this thesis are provided, followed by the delimitations of the research. A diagrammatic overview of Chapter One can be seen in Figure 1.1.

Figure 1.1 Diagrammatic overview of Chapter One



1.2 The importance of the field of international entrepreneurship

IE can be defined as the “discovery, enactment, evaluation, and exploitation of opportunities across national borders to create future goods and services” (Oviatt & McDougall, 2005, p. 540). The IE literature states that advances in information and communication technologies have been identified as enablers of IE, by decreasing costs and thus making internationalisation more feasible for the resource-constrained firm (Loane, 2006; Loane & Bell, 2006; Reuber & Fischer, 2011). The emergence of IE as a distinct field of research has led researchers to look specifically at the individual entrepreneur in the international business field (Knight, 2001; Zahra, Korri & Yu, 2005; Reuber & Fischer, 2011). The importance of the IE field has also been signalled by the appearance of ‘special issues’ on IE in academic journals such as *Entrepreneurship Theory and Practice* (1996), *Academy of Management Review* (2000), and the *Journal of International Entrepreneurship* (2006).

More recently, there has been a growing emphasis placed on the increasingly active role played by international entrepreneurs in the internationalisation of the firm (Bell, McNaughton, Young & Crick, 2003; Welch, 2004; Oviatt & McDougall, 2005; Loane, 2006). This interest reflects the fact that the decision-making power in SMEs and the impetus for firm internationalisation often lies with the international entrepreneur, as opposed to the management team, which is responsible for decision making in larger multi-national firms (Bhuian, Menguc & Bell, 2005). In SMEs the owner and/or the international entrepreneurial founder is likely to be working at the front line of the firm, and is most likely to possess the decision-making power for firm internationalisation decisions. The literature also highlights that international market performance outcomes can be optimised when the firm is internationally market-oriented and entrepreneurial (Bhuian, et al., 2005). For example, Frishammar and Andersson (2010) argue that there is a positive relationship between IE and international business outcomes, such as number of international markets and percentage of total sales as international revenue and profit. As a result of the positive relationship between IE and international market performance outcomes, scholars have proposed that a significant shift in IE research is warranted through an examination of how international entrepreneurial firms recognise and achieve

international market performance outcomes (Zahra et al., 2005). Given that international entrepreneurial firms who operate in an Internet environment are the primary sources for investigation in this thesis, Australian SMEs operating in an Internet context are discussed next.

1.3 Australian SMEs in an Internet context

Research has suggested that the Internet has become an increasingly important tool for internationally focused businesses (Petersen et al., 2002; Arenius, Sasi & Gabrielsson, 2006; Mathews & Healy, 2007; Etemad, Wilkinson & Dana, 2010). The Internet facilitates the development of international business by enabling access to new international markets (Petersen et al., 2002). Further, researchers in IE have found that the Internet influences the behaviour of SMEs in a number of areas, such as the ability to identify and evaluate international competition and develop new international networks through exploitation of international opportunities (Loane & Bell, 2006). Information and communication technologies have been identified as enablers of IE, through improved efficiency and speed of communication, the flow of international market knowledge and decreased overall start-up costs for firms (Prasad et al., 2001, Gabrielsson & Manek Kirpalani, 2004). As a consequence, the Internet has given rise to the increased internationalisation of SMEs.

Successful tourism-based SMEs such as ANZCRO have successfully leveraged the use of the Internet to augment product offerings through streamlining of communications to take advantage of opportunities in international markets. Other companies include Skype which provide digital services such as the online telephone business, or eBay which offer services solely via an Internet platform (Reuber & Fischer, 2011). Other companies such as wotif.com provide conventional services but conduct all business transactions and communication via the Internet, enabling the firm to pursue international opportunities much quicker than firms without an online presence.

The Internet economy is essential to Australia's productivity and global competitiveness (Department of Broadband, Communications and the Digital Economy, 2011). While an increasing number of Australian businesses are using the Internet for international

business activity, key statistics indicate that only a relatively small share of businesses are taking advantage of the Internet for international business operations (Department of Innovation, Industry, Science and Research, 2011). Although the proportion of Australian businesses with Internet access rose to 91.2% in 2011 (Department of Broadband, Communications and the Digital Economy, 2012), less than half of Australian businesses have an online Internet presence, such as a website. Firms utilising the Internet are more productive and add value to the business at a higher rate than those businesses without an Internet presence (ABS, 2010).

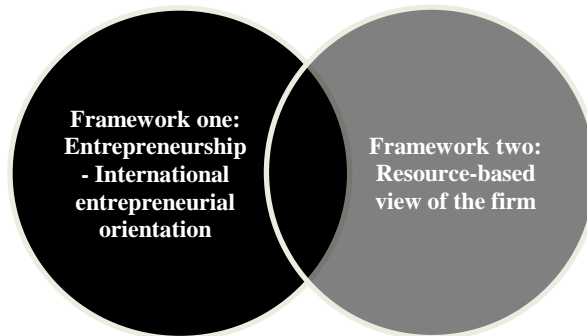
Australian Government statistics indicate that a relatively small number of businesses continue to obtain the benefits of a rapidly increasing online customer spend and the international opportunities that an Internet platform offers (Department of Broadband, Communications and the Digital Economy, 2013). Australian businesses with an online presence received online orders worth an estimated \$237 billion in 2011-2012 (ABS, 2013). In terms of consumer Internet usage the Oceania/Australian region accounted for approximately 24.3 million Internet users in 2012 (Internet World Statistics, 2012). The relatively high proportion of Internet use within the Australian region indicates the increased potential for firms to exploit the opportunities that an Internet environment offers.

On a global scale, there are more than 2.4 billion Internet users worldwide (Internet World Statistics, 2012). With more than one billion Internet users in the Asian region, there is evidence to suggest that Asia is the largest and fastest growing market in the world for services delivered by the Internet (Internet World Statistics, 2012). The European region has the second highest number of Internet users worldwide with just over 518.5 million, with North America accounting for 273.8 million Internet users worldwide (Internet World Statistics, 2012). The proliferation of Internet markets has enabled many SMEs to become international. Further, the key statistics presented here translate to millions of businesses that have, via the Internet, the potential to pursue IE in an international market environment (Reuber & Fischer, 2011).

1.4 Theoretical frameworks

This research is informed by two key theoretical frameworks; IE and the resource-based view of the firm. In this thesis, these two key theoretical frameworks, as seen in Figure 1.2, are applied to the investigation of international entrepreneurial firms, situated in the context of an Internet environment.

Figure 1.2 Theoretical frameworks in this research



Note. This thesis draws from two key theoretical frameworks. Firstly, International entrepreneurial orientation where the focus lies with the individual entrepreneur and secondly, the resource-based view which constitutes a firm level focus.

1.4.1 Framework one: Entrepreneurship – International entrepreneurial orientation

Entrepreneurship research is dominated by micro-level analysis, predominantly utilising the ‘individual’ or the ‘firm’ as the primary level of analysis (Wiklund & Shepherd, 2005; Davidsson & Wiklund, 2007). During the last decade, however, the number of research papers employing both the ‘individual’ and ‘firm’ as a collective level of analysis has risen, accounting for 11.1% of the total number of entrepreneurship studies. Davidsson and Wiklund (2007) have suggested that the tendency for ‘individual and firm’ level studies is a positive sign that individual behaviour is systematically related to firm-level behaviour and outcomes rather than just describing individuals who run businesses. Further, the author’s highlight that trying to explain firm outcomes solely by individual behaviour is not a wise strategy (Davidsson & Wiklund, 2007). As such, this thesis draws from the both the ‘individual’ level, drawing an entrepreneurial orientation, and the ‘firm’ level by utilisation of the RBV.

Entrepreneurial orientation has played an important role in the development of entrepreneurship research (Slevin & Terjesen, 2011). Entrepreneurial orientation has been used to refer to the strategy-making processes of firms engaged in entrepreneurial activity (Lumpkin & Dess, 2001). Scholars have suggested that entrepreneurial orientation can be meaningfully extended into the field of IE as a way of examining and explaining the cross-border internationalisation of firms, as either a firm-level or an individual-level construct (Knight, 2001; Jantunen Puumalainen, Saarenketo and Kylaheiko, 2005; Mostafa et al., 2006). An international entrepreneurial orientation is a multi-dimensional concept reflecting the firm's overall proactiveness and aggressiveness in its pursuit of international markets (Knight, 2001). International entrepreneurial orientation involves taking advantage of international market offerings and risks in international environments and being more proactive than competitors in relation to new international business opportunities (Covin & Slevin, 1991; Jantunen et al., 2005; Wang, 2008).

To survive and to be continually successful in international markets, firms particularly SMEs, need to engage in internationalisation behaviour (Slevin & Terjesen, 2011). An international entrepreneurial orientation can also enable firms to identify and exploit these internationalisation opportunities. The concept of international entrepreneurial orientation incorporates three dimensions that reflect the firm's propensity to engage in international business in innovative, proactive and risk-taking ways in order to achieve the firm's competitive and internationally oriented goals (Knight, 2001). Firstly, international innovativeness refers to a firm's tendency to enter into experimentation, support new international ideas and depart from established practices (Lumpkin & Dess, 1996; Miller, 1983; Wiklund & Shepherd, 2004). The international innovative dimension also refers to the development or enhancement of products and services, such as new administrative techniques and/or technologies for improving the international organisational operations of the firm (Knight, 2001).

Secondly, international proactiveness involves aggressive positioning relative to competitors with an emphasis on the execution and ongoing tasks in pursuit of the firm's international market objectives (Knight, 2001). It has also been suggested that with a 'forward-looking' perspective, proactive firms have the desire to be pioneers, thereby

capitalising on new and existing international business opportunities (Wiklund & Shepherd, 2005). Thirdly, international risk-taking propensity denotes the willingness of the international entrepreneur to make investments and commit resources to projects that have uncertain outcomes or unusually high profits and/or losses (Lumpkin & Dess, 1996; Lee, Kyungmook & Pennings, 2001; Wiklund & Shepherd, 2005). Overall, it can be said that an international entrepreneurial orientation is a fundamental resource contributing strongly to the firm's international market performance.

1.4.2 Framework two: Resource-based view of the firm

While a number of theoretical frameworks have been developed and advanced over the past decade to explain international firm performance, one of the predominant perspectives has been the RBV (Wernerfelt, 1984; Barney, 1986, 1991). Seminal work by Wernerfelt (1984) and Barney (1986, 1991) has provided the foundation for studies in the RBV stream. The RBV is an influential theoretical framework developed to comprehend how competitive advantage within firms is attained and how this advantage can be sustained (Penrose, 1959; Nelson & Winter, 1982; Barney, 1986; Wernerfelt, 1984; Barney, 1991). Researchers in international business often utilise the RBV to identify how firms achieve and sustain international market performance.

Business performance is a firm's reason for existence. In the absence of sustainable, satisfactory performance outcomes, the firm will not survive; hence, performance is the single more important dimension of the firm's overall operations (Knight, 2001). Researchers agree that international market performance includes both financial and non-financial performance indicators (see, Murphy, Taylor & Hill, 1996; Wiklund & Shepherd, 2005). More recently, researchers have expanded on the RBV literature to include a capabilities approach, which attempts to explain how firms achieve performance in markets that are characterised by rapid change (Eisenhardt & Martin, 2000; Makadok, 2001). In this regard, Teece and Pisano (1994) proposed the dynamic capability view to include changing markets.

Dynamic capabilities are the responses to the need for change required to identify new international opportunities (Easterby-Smith, Lyles & Peteraf, 2009). These key changes

can involve the allocation of resources and operations. This changing nature and allocation of resources is a crucial component of the capability view (Easterby-Smith et al., 2009). That is, a firm's international performance is contingent firstly on a portfolio of capabilities, and secondly, the firm's potential to reconfigure, diversify and deploy capabilities for international market performance (Prange & Verdier, 2011). Research also suggests that when firms extend their international activities, they often accumulate resources to improve their international performance (Barney, 1986, 2001).

Referred to in the literature as being 'sticky', firm-level resources are unique because they cannot be readily assembled through markets (Teece, 1982), nor can they be brought or sold. RBV theories suggest that firms with valuable, rare, inimitable, and non-substitutable resources have the potential to achieve superior international market performance (Barney, 1991). Firm-level resources are inputs into the firm's production process or strategy (Barney, 1991; Wiklund & Shepherd, 2003), and have been considered as 'bundles' of tangible and intangible assets, including a firm's management skills, its organisational processes, and the information and knowledge the firm possesses. RBV implies that differential endowment of firm-level resources is an important determinant of strategy and international performance (Knight, 2001). That is, collectively, firm-level resources can contribute to the creation of a unique resource bundle, which can assist the firm in achieving superior international market performance.

1.5 Research problem

Although the importance of the Internet for international business activity has been identified in the international business literature (Hamill, 1997; Aspelund & Moen, 2004; Loane, 2006; Mathews & Healy, 2007), the IE literature has paid limited attention to this phenomenon. In recent years, the practice of IE in an Internet environment has developed well ahead of the advancement of theory. As such, much of the research into IE in an Internet environment remains at a conceptual level with a lack of empirical validation. Despite the number of small entrepreneurial business that are currently utilising the Internet to pursue international market performance, the IE literature has paid limited attention to the specific link between Internet capabilities and the firm's international market performance outcomes (Reuber & Fischer, 2011). In particular, there has been

very little empirical research aimed at uncovering ‘bundles’ of firm-level resources and Internet capabilities that characterise international entrepreneurial SMEs (Lewin & Massini, 2003). To date, most research identifies links between the Internet and the factors that may influence the international market performance of the firm, yet no one model examines the specific links between Internet capabilities and international market performance. Therefore, ambiguity exists in defining the Internet capabilities required for firm performance. As such, the key research gaps within the literature will be discussed next in relation to the research questions.

1.6 Research gaps and questions

To address the research problem, three research gaps have been identified, with three corresponding research questions. Firstly, research has suggested that international entrepreneurial firm-level resources and Internet capabilities are critical variables for the successful pursuit of international opportunities (Reuber & Fischer, 2011). The literature states that international market performance can be optimised when the firm is internationally market-orientated and entrepreneurial. In order for firms to seize the international opportunities that an Internet environment presents, international entrepreneurial firms must first reconfigure their existing resource base to identify the firm-level resources and Internet capabilities that could lead to the formulation of new international market opportunities. Although, the RBV approach has previously been applied to international business studies, limited research identifies the specific ‘bundle’ of firm-level resources and Internet capabilities that characterise firms operating in an Internet environment. Further, limited research attempts to explain how Internet capabilities in conjunction with firm-level resources influence the international market performance of the firm. As such, research question one (RQ1) has been established:

RQ1: What are the firm-level resources and Internet, international marketing capabilities of firms, and how do they influence international performance?

Secondly, the Internet has been highlighted as a strategic resource that may help firms achieve operational efficiency and functionality when operating internationally (Li & Ye,

1999). More importantly, Reuber and Fischer (2011) found that entrepreneurial resources such as Internet capabilities are a critical variable for the successful pursuit of international marketing opportunities. However, the extent to which Internet capabilities can contribute to the international business performance outcomes of the firm remains unclear (Celuch & Murphy, 2010). Moreover, the link between international entrepreneurial firm-level resources, Internet capabilities and the international market performance of firms operating in Internet environments is still not well understood (Mostafa et al., 2006, Mathews & Healy, 2007; Reuber & Fischer, 2011). Furthermore, research concerning SME internationalisation has been criticised in the entrepreneurship literature due to the lack of consideration paid to IE in an Internet environment (Mostafa et al., 2006; Reuber & Fischer, 2011).

Despite the increasing numbers of businesses that are already using the Internet to pursue international business, and the latent potential for such activity from rising Internet adoption levels, the IE literature has paid limited attention to this phenomenon (Reuber & Fischer, 2011). In summary, research suggests that the limited extent to which IE scholars have studied the utilisation of the Internet is not reflective of the significance of its use by the growing number of international entrepreneurs (Reuber & Fischer, 2011). As such, it is believed that an essential step in moving the field of IE forward is the incorporation of Internet phenomena into the current understanding of how firms are achieving international market performance (Reuber & Fischer, 2011). More recently, Wilden, Gudergan, Neilsen and Lings (2013) suggested that research exploring capabilities will benefit from modelling the mediation effects of capabilities, such as technology-related capabilities with performance of the firm. As such, sub-research question (RQ2a) was developed:

RQ2a: What is the relative influence of firm-level resources and Internet, international marketing capabilities on international performance?

Thirdly, research studies identify the international entrepreneur as an important and potential catalyst for driving Internet-generated internationalisation (Davis et al., 2000; Loane et al., 2004; Loane, 2006; Loane & Bell, 2006; Mostafa et al., 2006). Predominantly, research highlights the positive impact of the Internet on the firm, but

neglects the significant influence of the decision-maker, or the international entrepreneur's role in exploiting firm-level resources and Internet, international marketing capabilities for performance. With the exception of a small number of studies (Mostafa et al., 2006; Liao et al., 2009; Reuber & Fischer, 2011), researchers to date have paid limited attention to the role of the international entrepreneur in influencing the international market performance of firms in an Internet environment. Therefore, this key gap in the literature leads to the second sub-research question (RQ2b):

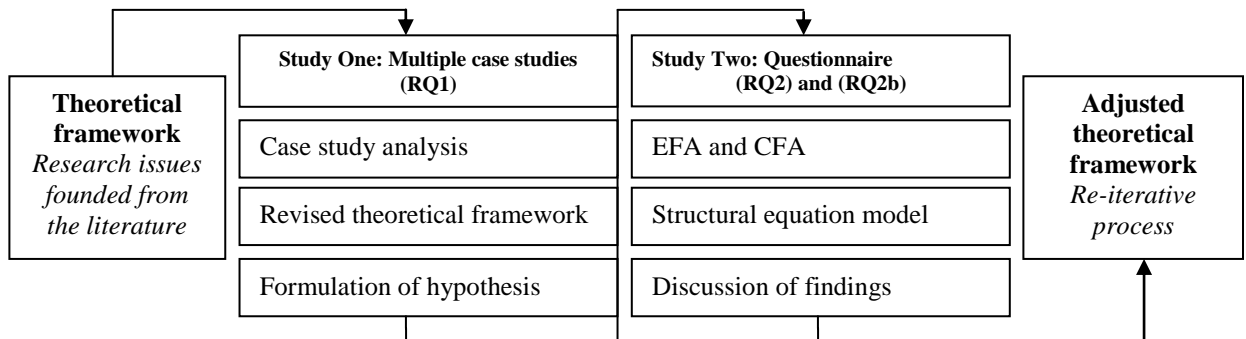
RQ2b: How do international entrepreneurs leverage Internet, international marketing capabilities for international performance?

In summary, this research seeks to address the gaps in the literature by investigating how firm-level resources and Internet, international marketing capabilities influence the international market performance of the firm. Understanding these key firm-level resources and Internet capabilities will assist in providing some insight into how the Internet is influencing the internationalisation of firms. To investigate the research questions, a mixed-method approach was adopted.

1.7 Methodology

This research is underpinned by a multi-method, two-study approach. A mixed method approach was deemed appropriate for identifying new theoretical constructs, while attempting to achieve verification in a relatively nascent research area (Eisenhardt, 1989, Poon & Swatman, 1997; Perry, 1998b; Marshall & Rossman, 2006; Reuber & Fischer, 2011). Multi-method approaches, as seen in this thesis, typically involve the use of qualitative and quantitative methodologies (Creswell, 2003; Marshall & Rossman, 2006). The multi-method research design of this thesis can be seen in Figure 1.3, where Study One utilises qualitative multiple case study methodology to address RQ1 and, Study Two utilises a quantitative questionnaire to address RQ2a and RQ2b.

Figure 1.3 Research design



1.7.1 Study One: Qualitative multiple case studies to address RQ1

In Study One, multiple case study methodology was utilised to address RQ1. Study One employed in-depth case study interviews, with a non-probability purposive sampling strategy to construct a theoretical platform of firm-level resources and Internet capabilities. A total of 12 in-depth, structured 90-minute to two-hour case interviews were conducted with founding international entrepreneurs to yield rich insights into the understanding of the types of firm-level resources and Internet capabilities at play in international entrepreneurial firms. As a consequence of the qualitative analysis, a theoretical model of ‘Capabilities in IE’ was developed for testing in Study Two. It was determined that Study Two would empirically test all firm-level resources and Internet capabilities identified in Study One, except international business experience.

Reuber and Fischer (1999) acknowledge that many factors will impact a firm’s performance, and that business experience is not necessarily the strongest of the factors. International business experience is most often identified in more generic/traditional models of internationalisation. Initial EFA and reliability analysis techniques were employed to measure the suitability of international business experience in the theoretical model. The Chronbach Alpha and Kaiser-Meyer-Olkin analysis indicates unacceptable reliability levels; therefore international business experience was identified as a non-critical component of the theoretical model and is not empirically tested in Study Two. The model of ‘Capabilities in IE’ included six constructs for testing: resources include; (*international entrepreneurial orientation and technology-related international vision*), and three capabilities (*international entrepreneurial opportunity recognition,*

international virtual network capabilities and Internet, international marketing capabilities). The model also utilised *international market performance* as the dependent outcome.

1.7.2 Study Two: Quantitative questionnaire to address RQ2a and RQ2b

Study Two, which addresses RQ2a and RQ2b, employed a 15-minute web-based questionnaire comprising measures adapted from pre-validated measurement scales. The purpose of Study Two was to test the relationships in the proposed model of ‘Capabilities in IE’. The measures were adapted to reflect more appropriate items for the specified context of an Internet environment and tested with a pilot sample of $n=100$, through an exploratory factor analysis (EFA), and reliability analysis utilising IBM SPSS 19 software. The measures were then subject to a large-scale, web-based questionnaire with a final sample of $n=208$. The measures in the final sample were subject to an EFA, a confirmatory factor analysis (CFA), and structural equation model (SEM) techniques, utilising IBM SPSS 19 and IBM SPSS AMOS 21. By confirming or disconfirming the constructs in the initial qualitative Study One, a quantitative modelling process gave statistical verification to the constructs identified, as well as confirming generalisability of the findings (Eisenhardt, 1989). Further, the multivariate SEM approach allowed the researcher to develop theory through identification of direct and indirect relationships in a holistic manner (Bagozzi, 1994). Scholars have suggested that SEM provides a high level of complexity of analysis as compared with more traditional means of multivariate analysis. An overview of the research program can be seen in Table 1.1.

Table 1.1 Overview of the research program

Research gaps	Corresponding research question	Study	Objectives of the research	Research methods	Data analysis procedures
<p>Research gap one: Limited understanding of how resources and Internet capabilities influence international performance.</p>	<p>RQ1: <i>What are the firm-level resources and Internet, international marketing capabilities of firms, and how do they influence international performance?</i></p>	<p><i>Study One</i></p>	<p>(i) To identify the firm-level resources and Internet capabilities influencing international market performance.</p> <p>(ii) To develop a proposed conceptual model of firm-level resources and Internet capabilities.</p>	<p>Qualitative method</p> <ul style="list-style-type: none"> - In-depth structured interviews for case study methodology. - ($n=12$ cases). 	<p>Case study analysis</p> <ul style="list-style-type: none"> - Analytic generalisability achieved through replication logic, which provides support for theory development. - Manual coding techniques.
<p>Research gap two: (i) Limited empirical evidence of the inter-relationship between resources, Internet capabilities and international performance.</p>	<p>RQ 2a: <i>What is the relative influence of firm-level resources and Internet, international marketing capabilities on international performance?</i></p>	<p><i>Study Two</i></p>	<p>(i) To examine the relative impact of firm-level resources and Internet capabilities on performance.</p> <p>(ii) To understand the role of the international entrepreneur in leveraging Internet marketing capabilities for performance.</p>	<p>Quantitative method</p> <ul style="list-style-type: none"> - Questionnaire. - Initial validation sample ($n=100$). - Final sample ($n=208$). 	<p>Questionnaire analysis</p> <ul style="list-style-type: none"> - Exploratory factor analysis (EFA) utilising IBM SPSS 19. - Confirmatory factor analysis (CFA) utilising IBM SPSS 19. - Structural equation modelling utilising IBM SPSS AMOS 21.
<p>Research gap three: (ii) Lack of understanding of how the international entrepreneur influences firm performance in an Internet environment.</p>	<p>RQ2b: <i>How do international entrepreneurs leverage Internet, international marketing capabilities for international performance?</i></p>				

1.8 Research contributions

This thesis makes three important contributions to theory and three managerial contributions. The theoretical contributions will be discussed first.

1.8.1 Theoretical contributions

The theoretical contributions to be discussed are (i) the advancement of theory derived from the practice of IE, (ii) the empirical validation of resources and capabilities in IE, (iii) identification of the key Internet capabilities required for international performance and, (iv) risk perceptions associated with the Internet and implications for internationalisation process theory.

(i) The advancement of theory derived from the practice of international entrepreneurship

The practice of IE has in recent years has proceeded well ahead of the advancement of theory, and, as a consequence IE theory remains fragmented and devoid of a unifying theoretical direction (Coombs, Sadrieh & Annavarjula, 2009; Zahra & George, 2002; Peiris, Akoorie & Sinha, 2012). At a macro level, the diversity of approaches found in the IE literature suggests that a unifying and clear methodological direction is currently remote (Coviello & Jones, 2004). As such, a core contribution of this thesis lies in the ability of the research to direct attention back to the importance of the development of theory for the field of IE. Further, this thesis identifies that two commonly used approaches to understanding international entrepreneurial firms are now outdated. First, studies examining IE from an RBV perspective without consideration of capabilities do not provide an accurate understanding of the how resources, and more specifically capabilities, are influencing the firm's international strategy. Second, the findings suggest that performance is contingent upon the integration of an aggregation of capabilities, beyond just the singular perspective that has plagued recent studies in IE (e.g. Wiklund & Shepherd, 2003; Aspelund & Moen, 2004; Mostafa et al., 2006; Mathews & Zander, 2007).

(ii) The empirical validation of resources and capabilities in international entrepreneurship

Empirical research in IE examining the resource and capability development of firms remains largely at a conceptual level. As a consequence, there is a lack of empirical validation of the specific variables affecting the international market performance of the firm. The majority of the research in the emerging IE field is also characterised by studies focusing on quantitative analysis, and as a result, complex processes in building theory for the deployment of resources and capabilities is not being captured, unless at a narrow level (Coviello & Jones, 2004). As such, a quantitative approach dominates IE (Coviello & Jones, 2004; Coviello & McAuley, 1999), with the bulk of data emphasising inferential statistics and hypothesis testing. Qualitative approaches to IE are fewer in number, which is a weakness in a field concerned with behaviour and value-creating processes (McDougal & Oviatt, 2000). Because IE remains at a relatively nascent stage, a number of researchers (e.g. Knight, 2001; Zahra & George, 2002; Oviatt & McDougall, 2005) have argued that employing both qualitative and quantitative methodologies will ensure that research contributions in IE move away from basic conceptualisation to identifying new theories and statistical validation of constructs. Furthermore, this thesis has addressed this call for mixed method research contributions by employing both qualitative and quantitative methods.

(iii) Identification of the key Internet capabilities required for international performance

With the exception of a small number of studies (e.g. Aspelund & Moen, 2004; Loane et al., 2004; Loane 2006; Mostafa et al., 2006; Morgan, 2012; Reuber & Fischer, 2011), researchers to date have paid limited attention to the relationship between IE and the firm-level resources and capabilities required for firms in achieving international market performance. To date, most research (e.g. Aspelund & Moen, 2004; Mostafa et al., 2006) identifies the potential for links between resources and capabilities and performance outcomes. However, no one model examines the specific firm-level resources and capabilities that may affect the performance outcomes of firms operating in an Internet environment. This research addresses this gap by providing scholars with an understanding of the firm-level resources and capabilities required for firms operating in

an Internet environment, beyond just viewing resources from a singular viewpoint. Although the literature states that a firm-level resources and capability bundle can have a positive effect on international market performance, these assertions have not yet been clearly empirically tested.

Confirmation and modelling of the mediation effects in the model also indicate an explicit link between firm-level resources and Internet capabilities. These key research findings support the work of Eisenhardt and Martin (2000) and Winter (2003), who argue that capabilities do not influence a firm's performance directly, but rather indirectly through a mediating variable, such as international entrepreneurial opportunity recognition. As such, the research findings extend the literature in two important ways. First, the research findings contribute to the existing literature in examining the role of firm-level resources and the capabilities of international entrepreneurial firms operating in an Internet environment. Second, the results provide support for the contribution of capabilities in improving the firm's international market performance as predicted by Teece (2007).

(iv) Risk perceptions associated with the Internet and implications for internationalisation process theory

The findings of this research indicate that while the Internet has had an impact on reducing risk in internationalisation, it has now created a perception in which international entrepreneurial managers now view internationalisation as a low-risk business practice. This is because the Internet has negated the traditional barriers faced by firms in the internationalisation process. It has been suggested that the Internet can also assist in reducing the perceived risk associated with strategic decisions in the internationalisation of the firm, considering that the internationalisation processes of the firm are often complex with a high degree of risk in failure (Mathews & Healy, 2007). The findings indicate that Internet, international marketing capabilities have had a positive effect on lowering the perceived risk in internationalisation and negate key risk factors such as high uncertainty and costs, low information and knowledge and the presence of psychic distance factors.

1.8.2 Managerial contributions

This thesis provides three managerial contributions that are beneficial to international entrepreneurial firms: (i) identification of a strategy tool to reconfigure existing resources and capabilities, (ii) identification of the levels of innovation required for international performance, and (iii) identification of the need to recruit employees with an international entrepreneurial orientation.

(i) Identification of a strategy tool to reconfigure existing resources and capabilities

The research findings indicate a number of variables influencing the international market performance of the firm. International entrepreneurial managers can use these key capabilities as tools to reconfigure the existing resource base to achieve performance. The essential firm-level resources required for firms to achieve performance in international markets are international entrepreneurial orientation and international entrepreneurial opportunity recognition. The findings of the research indicate that these two components of a firm's resource base are critical for international business strategy. Similarly, Internet, international marketing capabilities are also critical firm-level capabilities. 'Desirable', but not essential to the firm's progression in international markets, technology-related international vision and international virtual network capabilities are not critical components for international market success.

(ii) Identification of the levels of innovation required for international performance

While the final model of firm-level resources and Internet capabilities shows that a number of variables are required for firms to achieve optimal performance outcomes, innovation is one of the most important resources for an internationally focused business. For instance, the research findings show a clear relationship between the acceptance and application of the Internet and the development of new products to increase customer value in Internet environments. Because the Internet has become increasingly competitive, firms need to ensure they are more innovative in an online environment. The research findings show that firms can become more innovative through developing new products, opening new markets, and strategic use of the Internet to achieve successful

international outcomes. Firms that place a greater emphasis on innovation will stand to achieve better financial performance outcomes.

(iii) Identification of the need to recruit employees with an international entrepreneurial orientation

In an increasingly globalised world where the Internet plays an important role in fostering international business, there are incentives to rely on technology for all aspects of business. The findings of the current research show that while the Internet has been one of the most important tools for internationally focused businesses in recent times (Petersen et al., 2002; Loane, 2006; Mathews & Healy, 2008; Mathews et al., 2012), the ‘human’ component of IE remains at the forefront. This research shows that while capabilities, such as Internet, international marketing capabilities are important for the firm’s progression in international markets, firm-level resources such as the international entrepreneurial orientation play a substantial role in the international performance outcomes of the firm. As such, international entrepreneurs should consider recruiting people who exhibit innovative behaviours, those who are forward-looking and proactive, and those who are willing to take risks in an international business environment.

1.9 Outline of the thesis

This thesis was written in accordance with Perry’s (1998a) overview of a structured approach for presenting a thesis. The following thesis structure identifies eight chapters for this research. The eight chapters included in this research are presented in Table 1.2, followed by a brief description of the individual chapters.

Table 1.2 Outline of the thesis

Chapters included in this research	
Chapter One	<i>Introduction</i>
Chapter Two	<i>Literature review</i>
Chapter Three	<i>Qualitative methodology – Study One</i>
Chapter Four	<i>Findings of qualitative Study One</i>
Chapter Five	<i>Theoretical model and hypotheses</i>

Chapters included in this research	
Chapter Six	<i>Quantitative methodology – Study Two</i>
Chapter Seven	<i>Results of quantitative Study Two</i>
Chapter Eight	<i>Discussion and conclusion</i>

Chapter One of this thesis provides an introduction to the research by highlighting in brief the background to the research, an evaluation of the research problem and research questions, and an overview of the data collection methods. Within this chapter the key terms and definitions utilised in the study are also presented along with the delimitation parameters for research investigation.

Chapter Two provides a detailed discussion of the literature pertinent to the identified research problem. Although limited research has attempted to examine the Internet's impact on small firm internationalisation, scholars have not yet thoroughly explored the internationalisation process of firms who operate in an Internet environment. Despite the increasing number of SMEs using the Internet to pursue and exploit international opportunities, limited attention has been paid to this phenomenon (Reuber & Fischer, 2011). To address this gap in the international business literature, two research questions were developed and a number of theoretical constructs in the literature were identified to assist in answering the research questions. The proposed theoretical model developed from the literature review is also presented in Chapter Two.

Chapter Three provides a detailed discussion of the case study methodology used for investigation in Study One. This research methodology is thoroughly investigated to ascertain the appropriateness of the methods used in Study One. The justification for a qualitative approach to Study One is also presented, along with the data collection and analysis procedures. This section of the thesis also outlines the philosophical underpinnings in Study One and gives consideration to the ethics procedures taken in this research.

Chapter Four provides an analytical review of the findings from the data collected from 12 information-rich international entrepreneurial firms. The findings of the 12 case studies are presented with reference to key firm-level resources and Internet capabilities

identified as influencing the firm's international market performance. A proposed conceptual model of firm-level resources and Internet capabilities in an Internet context is also presented. This conceptual model was utilised to generate a series of hypothesis for statistical testing in Study Two.

Chapter Five presents the proposed model of firm-level resources and Internet capabilities, while addressing the constructs for statistical testing in Study Two. This conceptual model identifies the hypothesised relationships between the identified constructs of firm-level resources and Internet capabilities in an Internet context. This section of the chapter provides a description of the measures utilised in Study Two and a justification for the hypothesised relationships. Chapter Five further presents the full hypothesised model of 'Capabilities in IE'.

Chapter Six discusses the quantitative methodology for Study Two. In this chapter the use of quantitative methods is evaluated and justified. Validity and reliability issues are taken into consideration, along with the justification for using a structural equation modelling approach. The ability to evaluate both manifest and latent variables with multiple-item constructs in a simultaneous modelling process highlights the strength of utilising SEM. SEM also allows for identification of complex interrelations, which were identified in this study.

Chapter Seven analyses the normality of the data, reliability and measurement models as well as the use of a EFA and CFA. Structural models including the fully saturated model, competing and final models, are presented and discussed. This chapter also further provides an evaluation of the model fit relevant to the inter-relationships between firm-level resources, Internet capabilities, and international market performance. The models are assessed for reliability and validity and for model fit and rigour using normed Chi-squared, Tucker Lewis Index (TLI), Comparative Fit Index (CFI), Standardised Root Mean Residual (SRMR), and Root Mean Squared Error Approximate (RMSEA). The competing models are also assessed using a Bootstrap test for rigour and robustness.

Chapter Eight provides a discussion of the key findings of the overall research investigation by drawing upon the findings from Study One and Study Two. The

theoretical and practical contributions are discussed, as are the limitations of the research. Suggestions for future research are presented, which not only seek to overcome the existing limitations, but also to expand the current scope of understanding in IE. The holistic model extends the current understanding of IE by providing empirical evidence and addressing the three identified gaps within the literature pertaining to the inter-relationship between firm-level resources and Internet capabilities and the international market performance.

1.10 Key definitions

The definitions of key terms utilised in this thesis are presented in Table 1.3, followed by a discussion of the delimitations of the research.

Table 1.3 Definitions

Key terms & Abbreviation	Definition
Capabilities	The literature characterises capabilities as complicated routines and processes embedded in firms (Eisenhardt & Martin, 2000).
Firm-level resources	Referred to in the literature as being ‘sticky’, firm-level resources are unique because they cannot be readily assembled through markets (Teece, 1982), nor can they be brought or sold. Firm-level resources have been considered as ‘bundles’ of tangible and intangible assets, including a firm’s management skills, its organisational processes and routines, and the information and knowledge the firm possesses (Barney, 2001). That is, collectively, these core resources contribute to the creation of a unique resource bundle. The term ‘firm-level’ is used to delimit to resources at the firm level.
International business experience <i>Abbreviation: IBE</i>	International business experience related to the Internet and international markets plays an important role in garnering firm-level resources for internationalisation via the Internet (Reuber & Fischer, 1997). The Internet can expedite the internationalisation process, by allowing firms to collect, analyse and evaluate information and knowledge at a much faster pace (Loane & Bell, 2002). Likewise, international business experience in international markets can assist firms to internationalise more efficiently and effectively.
International entrepreneurship <i>Abbreviation: IE</i>	International entrepreneurship is “ <i>the discovery, enactment, evaluation, and exploitation of opportunities across national borders to create future goods and services</i> ” (Oviatt & McDougall, 2005, p. 540).
Internet environments	An Internet environment is an online platform that connects businesses through a gateway of interconnected networks. Firms that operate in an Internet environment with an online presence may engage in activities that include website presence, online sales transactions and online communications. It is important to highlight that a website presence does not automatically imply that a business is instantly international, because the firm may not be currently pursuing an international activity or have the desire to be international in nature.

Key terms & Abbreviation	Definition
International entrepreneurial orientation <i>Abbreviation: IEO</i>	International entrepreneurial orientation reflects the firm's overall international innovativeness, proactiveness and risk-seeking propensities in its pursuit of international markets (Knight, 2001). The construct has been used in the literature at both an individual and firm level (Knight & Cavusgil, 2004).
Internet internationalisation	Internationalisation is a synonym for " <i>the geographical expansion of economic activities over a national country's boarder</i> " (Ruzzier, Hisrich & Antoncic, 2006, p. 477). Internet internationalisation refers to the firm's expansion across national borders via technologies such as the Internet (Loane, 2006).
Internet, international marketing capabilities <i>Abbreviation: IIMC</i>	The literature suggests that Internet, international marketing capabilities are an important and unique firm resource (Loane, 2006; Etemad et al., 2010; Reuber & Fischer, 2011). Internet, international marketing capabilities are defined as the ' <i>engagement of routines, prior and emergent knowledge, analytic processes, and simple rules to turn information technology into customer value</i> ' (Zhu & Kraemer, 2002, p. 278).
International virtual network capabilities <i>Abbreviation: IVNC</i>	Developing a international virtual network capability can enhance the firm's progression (Loane, 2006) and successful pursuit of international opportunities in Internet markets, just one component of a firm's resource bundle that builds towards successful internationalisation via Internet platforms. An international virtual network capability involves developing virtual networks with suppliers, distributors, industry-specific client competitors, customers and industry-relevant authorities.
International entrepreneurial opportunity recognition <i>Abbreviation: IEOR</i>	International entrepreneurial opportunity recognition is the ability to recognise a good idea and transform it into an international business concept that adds value and generates international revenues (Lumpkin & Lichtenstein, 2005).
International market performance <i>Abbreviation: IMP</i>	Performance is a firm's reason for existence (Knight, 2001). In the absence of sustainable, satisfactory performance outcomes, the firm will not survive; hence, performance is the single more important dimension of its overall operations (Knight, 2001). Validated measures of international firm performance include, but are not limited to, number of international markets, percentage of total sales as international revenue and profit, export sales growth and export profitability (Cavusgil & Zou, 1994; Lu & Beamish, 2001; Mostafa et al., 2006; Mathews et al., 2012).
Resource-based view <i>Abbreviation: RBV</i>	The resource-based view of the firm is an influential theoretical framework developed to comprehend how competitive advantage within firms is attained and how this advantage can be sustained (Penrose, 1959; Nelson & Winter, 1982; Barney, 1986; Wernerfelt, 1984; Teece, 1986, Barney, 1991). Wernerfelt (1984) argues that by specifying a resource profile a firm can identify the minimum resource requirements necessary for growth.
Small and medium sized enterprise <i>Abbreviation: SME</i>	Small- and medium-sized enterprises are classified as firms employing between 1 and 200 people. Small firms employ between 1 and 19, and medium-sized firms between 20 and 200 (ABS, 2012).
Technology-related international vision <i>Abbreviation: TRIV</i>	The international vision of the entrepreneur has also been found to be a principal factor in the internationalisation of SMEs (Johnson, 2004). For instance, small, high technology mediated firms are often driven to be international at or near inception, and often engage in early internationalisation activities in order to maintain competitiveness (Johnson, 2004; Loane & Bell, 2006). Derived from international vision, technology-related international vision is the entrepreneur's drive and willingness to achieve international outcomes via the Internet.

1.11 Delimitations

The research sample in this thesis was firstly limited to international entrepreneurs. The selection of key informants was conducted in accordance with Huber and Power's (1985) guidelines in determining the appropriateness of informants, such as international entrepreneurs or owner/founders. International entrepreneurs were pre-screened to ensure that they were the owner/founder of the firm and were central to key decision-making processes. Pre-screening questions to differentiate entrepreneurs from non-entrepreneurs were also included and both stages of data collection. This research is also limited to the investigation of Australian goods and service firms only. Australia's annual export value of goods and services combined is approximately US\$217 billion in 2009-10 (Austrade, 2011). A study published by the Australian Department of Industry, Innovation, Science, Research and Tertiary Education (2012) also suggests that over half a million Australians are involved in early stage entrepreneurial activity at any point in time. Considering the entrepreneurial nature of this thesis, investigation of key informants from the Australian region was deemed appropriate.

The findings in this research are drawn only from SMEs employing between 1 and 200 people (ABS, 2012). SMEs make a significant contribution to the Australian economy, accounting for 99.7% of jobs, employing more than 70.5% of the private sector in Australia (Australian Government: Department of Innovation, Industry, Science and Research, 2011). These statistics represent the importance of SMEs to Australia's economic prosperity. A contextual factor, which constitutes a boundary condition restricting the generalisability of the findings presented, is the context of the Internet. Although the research sample consisted of firms that were actively operating in an Internet environment, firms' Internet use ranged from limited to extensive. Because markets are becoming increasingly global in nature (Reuber & Fischer, 2011), investigation of how international entrepreneurial firms were pursuing international market performance in an Internet environment was essential.

1.12 Conclusion

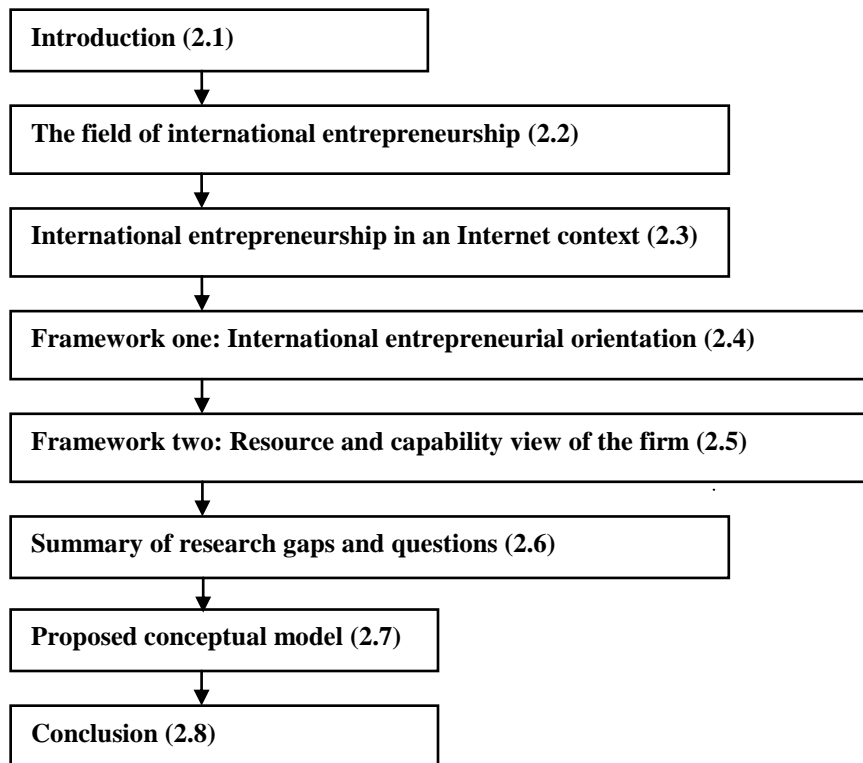
This chapter has provided an overview of this thesis. The chapter has outlined the research background and discussed the two key theoretical frameworks underpinning the thesis. The research problem is discussed with reference to the key gaps identified from the literature. The research questions developed to address the gaps in the literature were also discussed. The mixed-method approach for data collection and analysis was also outlined. This chapter also addressed the research contributions, and provided an overview of the structure of the thesis. The key definitions and limitations of the research are also addressed. Next, Chapter Two provides a comprehensive review and critique of the literature related to IE and the resource-based view of the firm. The literature review forms the basis for the research investigation, while highlighting the research gaps and explaining the derivation of the research questions.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The following literature review provides an in-depth understanding into the field of IE, situated within the context of an Internet environment. The literature review begins with a discussion of the foundations of IE with reference to the changing nature of entrepreneurs who operate within an Internet environment. A review and discussion of the key role of the international entrepreneur and the influence of international entrepreneurial orientation will also be provided. This discussion is then followed by a review of the resource-based and capability view of the firm. The summary of research gaps and questions is also provided, followed by the proposed conceptual model. Concluding comments for Chapter Two are also provided. A diagrammatic overview of Chapter Two can be seen in Figure 2.1.

Figure 2.1 Diagrammatic overview of Chapter Two



2.2 The field of international entrepreneurship

According to Zahra and George (2002) the term ‘international entrepreneurship’(IE) first appeared in a manuscript by Morrow (1988), who concluded that with technological advances and increasing global competition, entrepreneurs in the United States are challenged to become increasingly ‘international’ in their outlook. This seminal article by Morrow (1988) laid the conceptual foundation for further studies examining the international nature of previously domestic-based firms, which now need to engage in international business activity. This close theoretical link between the convergence of entrepreneurship and international business has given rise to the field of IE (Hisrich, Honig-Haftel, McDougall & Oviatt, 1995; McDougall & Oviatt, 2000; Zahra & George, 2002; Zahra et al., 2005). Reflective of the multidisciplinary nature of both entrepreneurship and international business, IE draws upon theories and frameworks from a broad range of academic fields such as management, entrepreneurship, international business, economics, sociology and marketing to explore the complex phenomenon of IE (Hisrich et al., 1996; McDougall & Oviatt, 2000; Zahra & George, 2002; Oviatt & McDougall, 2005; Gamboa & Brouthers, 2008).

International business scholars Wright and Ricks (1994) argue that IE is a newly emerging research field, consisting of (i) the study of entrepreneurial behaviour across multiple countries and cultures, and (ii) the study of firms that are entrepreneurial and engage in business activity across national borders. This definition of IE is said to have ‘set the scene’ for IE research (Zahra & George, 2002). While these two key foci have remained over the last decade, the definition of IE is still a matter of continuing debate (Oviatt & McDougall, 2005). Despite the efforts and progress made towards defining IE, the field remains in nascent form (Zahra & George, 2002), with some scholars claiming that IE research is fragmented, inconsistent and lacking in a unifying theoretical direction (Jones, Coviello & Tang, 2011).

This thesis draws on a widely utilised and commonly cited definition as ‘the discovery, enactment, evaluation, and exploitation of opportunities – across national borders – to create future goods and services’ (Oviatt & McDougall, 2005, p. 540). The phrase ‘across national borders’ highlights the particular importance of firms, groups and individuals

who discover, enact, evaluate and exploit international opportunity (Oviatt & McDougall, 2005). This definition is consistent with the definition of entrepreneurship as ‘the processes of discovery, evaluation, and exploitation of opportunities’ (Shane & Venkataraman, p. 218). These key definitions highlight the importance of opportunity identification as well as the increasing importance of international entrepreneurs themselves, their behaviour and the circumstances in which they are embedded (Shane & Venkataraman, 2000).

International entrepreneurs, whether in new or established firms, take considerable risks as they pursue opportunities in international markets (Zahra & George, 2002; Zahra et al., 2005). Given that IE is about opportunity identification in international markets, understanding how entrepreneurs make decisions to identify and exploit new international market opportunities is necessary to the development of the field (Shane & Venkataraman, 2000; Zahra et al., 2005). As such, understanding the factors that lead to variations in international market performance has been identified as an important but under-researched topic in IE (Abouzeedan & Busler, 2004; Zucchella, 2007; Jantunen, Puumalainen, Saarenketo & Kylaheiko, 2005; Zahra et al., 2005; Frishammer & Andersson, 2010). Given this finding, this research focuses on the firm’s successful pursuit of international opportunities in the context of an Internet environment.

2.3 International entrepreneurship in an Internet context

The number of research articles examining the relationship between the Internet and firms’ internationalisation has risen due to the influence of increasing Internet integration in SMEs (e.g. Poon & Swatman, 1997; Poon & Jevons, 1997; Haynes, Becherer & Helms, 1998; Dholakia & Kshetri, 2004; Loane & Bell, 2006; Bell & Loane, 2010; Celuch & Murphy, 2010). The Internet as a medium for international trade has also been championed as the most significant advancement in global strategy (Lynch & Beck, 2001; Melawar & Stead, 2002). Research highlights, for example, that advances in information and communication technologies, such as the Internet, are enablers of IE (Reuber & Fischer, 2011). By increasing the quality and speed of communications and transactions, and decreasing costs, such advances have made internationalisation more feasible for the resource-constrained SME (Mathews & Zander, 2007; Oviatt & McDougall, 2005). The

Internet has the capacity not only to significantly increase the efficiency of market transactions, but also to enhance the learning process about international markets through faster and more extensive access to relevant information (Petersen et al., 2002; Morgan-Thomas & Bridgewater, 2004; Mathews & Healy, 2008). The explosive growth and low cost of the Internet has enabled firms, particularly SMEs, to connect with people and locations all over the world, further strengthening international business relationships (Loane, 2006; Ruzzier et al., 2006). Many scholars have seen the Internet's influence and ability to facilitate international market expansion as the basis for a new paradigm in international business studies (Hamill & Gregory, 1997; Samiee, 1998; Prasad et al., 2001; Aspelund & Moen, 2004; Loane, 2006; Loane & Bell, 2006; Mathews & Healy, 2007, 2008).

Previous research has highlighted that the Internet can also act as a conduit for many of the international activities between the customer and the firm (Mathews & Healy, 2007). For example, Aspelund and Moen (2004) argue that the Internet can fundamentally reduce communication barriers that often occur for geographically dispersed organisations. Long-term use of the Internet creates the opportunity for cross-border information flows and transactions, while evoking faster foreign market expansion of firms (Quelch & Klein, 1996; Petersen et al., 2002; Aspelund & Moen, 2004). Further, research suggests that the Internet is a powerful tool, which in most cases can be used to assist firms in overcoming physical and managerial barriers to internationalisation (Sinkovics & Bell, 2006). This is especially true for SMEs given their widely recognised human and financial resource constraints (Samiee, 1998; Lituchy & Rail, 2000; Arenius et al., 2006; Sinkovics & Penz, 2006; Loane & Bell, 2006).

2.3.1 Internet, international marketing capabilities

Previously identified in the literature as 'online technological capabilities', Internet, international marketing capabilities are defined as the 'engagement of routines, prior and emergent knowledge, analytic processes, and simple rules to turn information technology into customer value' (Zhu & Kraemer, 2002, p. 278). Internet, international marketing capabilities make reference to the online technological capabilities of the firm. Much of the literature in international business and marketing (see, Quelch & Klein, 1996; Poon &

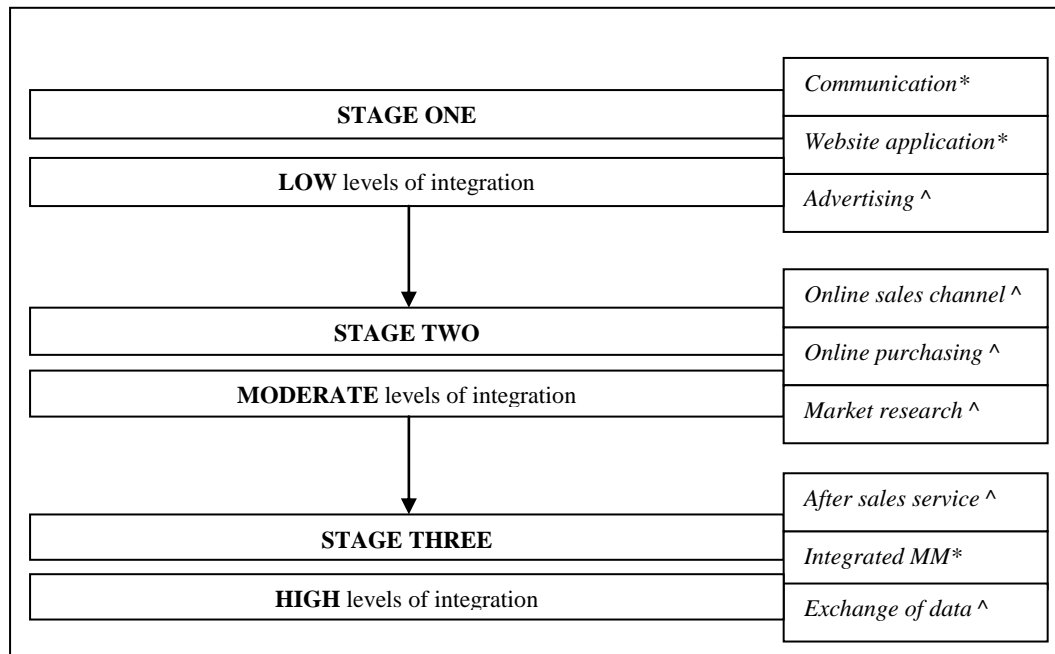
Swatman, 1997; Poon & Jevons, 1997; Samiee, 1998; Prasad et al., 2001; Petersen et al., 2002; Quan, 2008) focuses on the Internet's potential to facilitate SMEs to develop their international activities and improve performance by reducing the challenges associated with internationalisation. However, there is also growing evidence (Hamill, 1997; Poon & Swatman, 1997; Poon & Jevons, 1997; Morgan-Thomas & Bridgewater, 2004; Moen, Masden & Aspelund, 2008; Reuber & Fischer, 2011) to suggest that many firms are embracing Internet technologies from inception, or near after, to realise international outcomes. This finding suggests that the Internet can be employed not only as a tool to improve international market performance, but also as a core capability underpinning the firm's overall international strategy (Loane et al., 2004).

Research suggests that Internet, international marketing capabilities are an important and unique firm resource for SMEs (Loane, 2006; Loane & Bell, 2006; Raymond & Bergeron, 2008; Etemad et al., 2010; Reuber & Fischer, 2011). More than the Internet itself, it has been suggested that the sustainability of a firm's competitive advantage in the international marketplace arising from technology, lies in the firm's ability to re-configure and leverage technology in rapidly changing digital environments (Zhu & Kraemer, 2002; Teece, 2007; Liao et al., 2009). For instance, Morgan-Thomas and Bridgewater (2004) found that the businesses making larger financial and human resource investments in Internet technologies were more successful in conducting business with online export channels.

The quality of a firm's Internet technology has also been found to be associated with lowered online customer switching (Chen & Hitt, 2002), strengthened and improved online international customer relationships (Loane, 2006), increased online market performance, speedier recognition of international opportunities (Aspelund & Moen, 2004), and overall increased international market performance (Mostafa et al., 2006; Bell & Loane, 2010; Reuber & Fischer, 2011). As such, Internet, international marketing capabilities better enable firms to identify, pursue and exploit internationalisation opportunities. This is because the success of a firm in international markets relies heavily on the capacity of the firm to change and adapt to new Internet technology developments

(Buttriss & Wilkinson, 2003). A categorisation of Internet, international marketing capability integration within the firm can be seen in Figure 2.2.

Figure 2.2 Categorisation of Internet, international marketing capability integration



*Note. Integrated MM = Integrated market management. Exchange of data includes exchange of data with suppliers and customers. Source: Glavas, Pike and Mathews (2014b). Adapted from * Aspelund and Moen (2004) and ^ Gibbs and Kraemer (2004).*

Scholars have argued that a mere Internet presence, while it implies instant internationalisation from a technological perspective, is limited, because the successful deployment of a virtual presence is restrained by the functional and organisational capabilities of the firm (Kotha et al., 2001; Loane, 2006). That is, a website presence does not automatically assume that a business is instantly international. Instead, to survive and grow in highly competitive Internet business environments, firms have to search beyond their current resource base (Liao et al., 2009). There have also been suggestions that Internet environments render seemingly unsustainable competitive advantages and international outcomes obsolete (Liao et al., 2009). Instead, superior international market performance arises from the firm’s ability to constantly rejuvenate Internet processes.

Although the literature highlights the potential impact of the Internet on performance outcomes, limited studies accurately identify the specific inter-relationships within

international business processes (Mathews et al., 2012). Recent research has suggested that superior international market performance in Internet environments may arise from the Internet marketing capabilities a firm possesses (Reuber & Fischer, 2011; Glavas & Mathews, 2014a). Research also indicates that the link between IE, Internet, international marketing capabilities and the performance of the firm in international markets is still not well understood (Mostafa et al., 2006, Liao et al., 2009, Reuber & Fischer, 2011). For example, the three studies summarised in Table 2.1 identify links between the Internet and the factors that may influence performance, yet no model identifies the specific resources or Internet capabilities required to optimise a firm's international market performance.

Table 2.1 Summary of literature on international entrepreneurship in an Internet context

Research paper	Mostafa, Wheeler & Jones (2006)	Liao, Kickul & Ma (2009)	Reuber & Fischer (2011)
Methodology	Quantitative <i>Descriptive statistics</i>	Quantitative <i>Structural equation model</i>	Conceptual <i>Analysis of literature</i>
Theoretical framework	- International entrepreneurship. - Resources.	- Innovation-based entrepreneurship. - Dynamic capability view.	- Primarily based on a review of the literature
Key findings	- The results show that increased entrepreneurial orientation leads to greater Internet commitment.	- Firm's resource stock and integrative capabilities affect the firm's innovation. - Single resources influence performance.	- Identifies a number of Internet-related firm-level resources related to the pursuit of international opportunities.
Key limitation	- Vague description of resources that are related to the firm's performance.	- Investigates resources from a singular view and is vague in analysis.	- Provides a directional literature review, although the paper is conceptual in nature.

Although some research studies attempt to provide insight into IE in an Internet environment, the research area is still evolving, warranting greater exploration (Arenius et al., 2006; Loane, 2006; Sinkovics & Bell, 2006; Mostafa et al., 2006; Etemad et al., 2010; Reuber & Fischer, 2011). Researchers have suggested that there is also a need for further research in IE studies to identify the specific influence of Internet, international marketing capabilities on the international performance of the firm from an IE perspective (Mostafa et al., 2006; Reuber & Fischer, 2011).

2.3.2 The Internet and internationalisation theory

Internationalisation theories were developed to explain why firms, particularly large multi-national corporations, choose to operate beyond their domestic home market (Johanson & Weidersheim-Paul, 1975; Johanson & Vahlne, 1977). The underlying basic assumption in the literature is that the internationalisation processes of the firm are associated with a number of distinct steps following from commitment decisions of the firm (Johanson & Weidersheim-Paul, 1975; Johanson & Vahlne, 1977). Early conceptualisations suggest that internationalisation involves a series of stages in which firms gradually increase their international market commitment by building experience (Johanson & Vahlne, 2003). For this reason, mainstream theory on firm internationalisation has largely rested on ‘process’ view arguments. For example, the Uppsala model of internationalisation, associated with the work of Johanson and Weidersheim-Paul (1975) and Johanson and Vahlne (1977), sees internationalisation as a process in which learning about international operations and commitment to international business are coupled.

Traditional internationalisation process theories, such as the Uppsala internationalisation model, have been widely criticised in the literature for not accounting for firms which do not engage in a stepwise, incremental progression to international markets. For example, in a study of rapidly internationalising entrepreneurial Internet firms from Canada, Ireland, Australia and New Zealand, Loane (2006) found limited support for the stages models of internationalisation. The vast majority of case firms interviewed in this study displayed non-incremental Internet adoption with limited evidence supporting the incremental international market progression of firms (Loane, 2006). Instead, numerous scholars agree that many firms become international and seek out international market advantages from the outset (e.g. Petersen et al., 2002; Aspelund & Moen, 2004; Arenius et al., 2006; Loane, 2006, Loane & Bell, 2006; Mathews & Zander, 2007; Gabrielsson & Pelkonen, 2008). Referred to in the literature as ‘born global firms’ (Moen & Servais, 1997), ‘accelerated internationalising firms’ (Mathews & Zander, 2007), ‘global start-ups’ (Oviatt & McDougall, 1995), ‘born internationals’ (Gabrielsson & Pelkonen, 2008), and ‘international new ventures’ (McDougall, Shane & Oviatt, 1994; Oviatt &

McDougall, 1994; Wakkee, 2006; Oviatt & McDougall, 1997), these firms most often engage in international business activity from or near the business's inception.

Mainstream internationalisation theory has been criticised in the literature for assuming that firms become international only after a long period from their time of establishment (Etemad & Wright, 1999; Lu & Beamish, 2001; Andersson, Gabrielsson & Wictor, 2004). Scholars have suggested that process models of internationalisation also focus too narrowly at the firm level (McDougall et al., 1994), rather than investigating the influence of the individual or owner/founder on the internationalisation of the firm. Although internationalisation theory has not been utilised extensively in earlier empirical IE studies, McDougall and Oviatt (2003) have questioned the adequacy of the theory in explaining IE phenomena, calling for new and diversified theoretical perspectives.

More recent conceptualisations of internationalisation (see, Petersen et al., 2002; Aspelund & Moen, 2004; Arenius et al., 2006; Mathews & Healy, 2008) have suggested that the process of firm internationalisation is also influenced by other key activities of the firm – for example, integration of the Internet into business strategy, the capacity of the firm to engage in international network behaviour (Poon & Jevons, 1997; Lee et al., 2001; Welch, 2004; Mort & Weerawardena, 2006; Wakkee, 2006), and internal firm-specific managerial factors (Cavusgil & Nevin, 1981; Begley & Boyd, 1987; Hutchinson et al., 2006). As such, these key studies confirm that traditional internationalisation theories are now challenged when firms operating in an Internet environment are taken into consideration.

2.4 Framework one: International entrepreneurial orientation

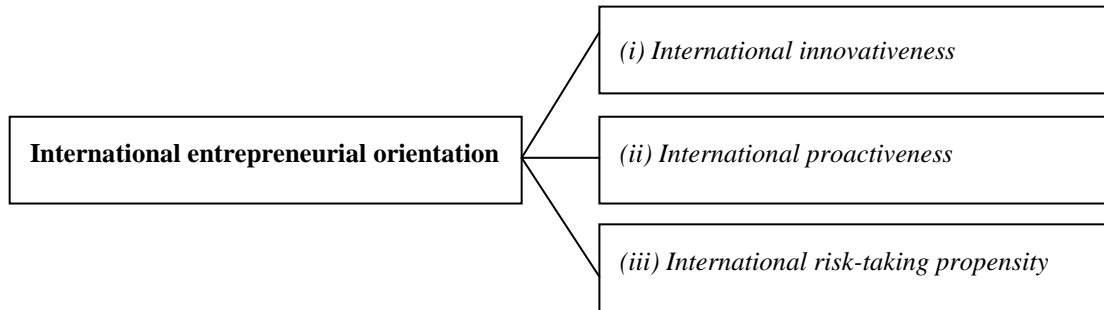
Entrepreneurial orientation refers to a firm's strategic orientation in seizing entrepreneurial aspects of decision-making styles and practices (Wiklund & Shepherd, 2005), while also reflecting how a firm operates (Lumpkin & Dess, 1996). Three decades since its conceptualisation, entrepreneurial orientation is a central component of entrepreneurship and strategy research (Slevin & Terjesen, 2011), with seminal contributions by Miller (1983), Miller and Friesen (1982), Covin and Slevin (1989, 1991), and Lumpkin and Dess (1996). Entrepreneurial orientation refers to a firm's strategic

orientation, encapsulating specific entrepreneurial components of decision-making styles, methods, and practices (Wiklund & Shepherd, 2005). Miller (1983) suggests that an entrepreneurial firm is one that 'engages in product market innovation, undertakes somewhat risky ventures, and is first to come up with proactive innovations, beating competitors to the punch' (p. 771). More recently, the entrepreneurial orientation concept has been advanced by Knight (2001) who suggested that entrepreneurial orientation can extend to international market environments.

In a study of international manufacturing SMEs, Knight (2001) discovered that specific SME international success factors, such as the international orientation of the entrepreneur, contribute strongly to the international performance of the firm. Given this finding, Knight (2001) proposes specific international success factors such as 'international innovativeness', 'international proactiveness' and 'international risk-taking propensity' in international markets as reflecting an 'international entrepreneurial orientation'. International entrepreneurial orientation is a multi-dimensional concept (Covin & Slevin, 1991), utilised as both an individual and firm-level construct, reflecting the firm's overall proactiveness and aggressiveness in its pursuit of international market opportunities (Knight, 2001).

International entrepreneurial orientation involves seizing international market offerings by taking risks to be more proactive than competitors to gain new international market opportunities (Covin & Slevin, 1991; Jantunen et al., 2005; Wang, 2008). The concept of international entrepreneurial orientation, as illustrated in Figure 2.3, incorporates the three dimensions as proposed by Knight (2001) and Knight and Cavusgil (2004), reflecting the firm's propensity to engage in international innovative, proactive and risk-seeking propensities to achieve the firm's competitive and internationally oriented goals.

Figure 2.3 Conceptualisation of international entrepreneurial orientation



Source: Knight (2001) and Knight and Cavusgil (2004).

(i) International innovativeness

Scholars have suggested that innovativeness includes supporting new ideas, experimentation, and creative processes by departing from established practices and technologies (Lumpkin & Dess, 1996). The international innovativeness dimension of international entrepreneurial orientation reflects a firm's tendency to 'pursue creative or novel solutions to challenges confronting the firm, including the development or enhancement of products and services, as well as new administrative techniques and technologies for performing organisational functions' (Knight, 2001, p. 160). Some research has argued that for an innovative activity to be considered entrepreneurial, it should involve the search for new relations between existing resources and products in a way that expands the firm's resources in an international context (Ripollés-Meliá, Menguzzato-Boulard & Sánchez-Peinado, 2007).

Firms often engage in international innovative behaviour in order to achieve competitive and internationally oriented goals, such as successful firm internationalisation. Examples of international innovativeness in an Internet environment include new product development in an online context and opening of new markets via the Internet. From a conceptual standpoint, research describes international innovativeness as an antecedent to internationalisation (Knight, 2001; Ripollés-Meliá et al., 2007), successful international outcomes (Jantunen et al., 2005; Wiklund & Shepherd, 2003; Mostafa et al., 2006), and technology adoption (Knight & Cavusgil, 2004; Wang, 2008).

Research also suggests that an entrepreneurial orientation gives rise to innovative processes and practices intended to maximise organisational success in new markets (Lumpkin & Dess, 1996). As a result of the increasing number of firms using the Internet to pursue international markets, it is expected that standardised use of the Internet will no longer be sufficient for international market performance. Instead, firms are often forced to become innovative to take advantage of online international market opportunities. Therefore, increased levels of technological and/or product market innovation can also be used by the firm to pursue new opportunities (Wiklund & Shepherd, 2005).

Research further suggests that entrepreneurship, innovation and internationalisation are becoming increasingly intertwined and that innovativeness is imperative for the flexible and proactive management of business activities in a complex and dynamic globalising world (Onetti, Zucchella, Jones & McDougall-Covin, 2012). Therefore, it is expected that firms operating in an online environment will be forced to develop new international innovations in order to remain competitive in dynamic Internet environments.

(ii) International proactiveness

The international proactiveness dimension of international entrepreneurial orientation refers to the aggressive positioning of the firm relative to competitors with an emphasis on the execution of ongoing tasks in pursuit of the firm's international market objectives (Knight, 2001). Scholars agree that proactiveness encompasses a 'forward-looking' perspective whereby firms encompass the desire to be pioneers (Miller, 1983; Lumpkin & Dess, 1996; Wiklund & Shepherd, 2005; Ripollés- Meliá et al., 2007; Wang, 2008). Wiklund and Shepherd (2005) suggest that with a forward-looking perspective, proactive firms have the aspiration to be pioneers in their field, doing so by capitalising on emerging international market opportunities. The literature states that firms engaged proactively in international business activities in an Internet environment are more likely to achieve gains beyond financial outcomes (Loane, 2006), including first-mover advantages in anticipation of future demand (Lumpkin & Dess, 1996; Mostafa et al., 2006). Research also highlights that a proactive international approach enhances the international entrepreneur's ability to anticipate the future needs of the firm and to

achieve performance outcomes by pursuing new international market prospects (Knight & Cavusgil 2004; Jantunen et al., 2005).

International technology-related proactiveness refers to an opportunity-seeking, forward-looking perspective where firms actively seek out international market opportunities, while anticipating the future international market and technological needs of the firm. With the explosive growth of the Internet in the international business environment, there has been limited research that examines the proactive behaviour of firms in highly complex, dynamic Internet environments. Such research may provide an understanding of how international entrepreneurial firms are leveraging the Internet for the international business processes of the firm.

(iii) International risk-taking propensity

The international risk-taking dimension of international entrepreneurial orientation is associated with the planning and implementation of projects that entail significant chances of financial loss (Miller & Friesen 1984; Knight, 2001). The risk-taking dimension also denotes the willingness of the international entrepreneur to make investments and commit resources to projects that have uncertain outcomes or unusually high profits and/or losses (Lumpkin & Dess, 1996; Knight, 2001; Lee, Kyungmook & Pennings, 2001), and to break away from previously established practices and venture into the unknown (Wiklund & Shepherd, 2005).

The existing literature in entrepreneurship (e.g. Lumpkin & Dess, 1996, 2001; Wiklund & Shepherd, 2005; Moreno & Casillas, 2008) and in IE (e.g. Jantunen et al., 2005; Oviatt & McDougall, 2005; Mostafa et al., 2006; Ripollés-Meliá et al., 2007) assumes that entrepreneurial orientation and a firm's international business processes (such as firm internationalisation) are positively related to the firm's entrepreneurial orientation, including risk-taking propensities. For example, in a study of SME exporting firms, Mostafa et al., (2006) found that those managers with high entrepreneurial orientation are innovative, proactive and risk-seeking, and, as a consequence were more likely to exploit opportunities provided by Internet capabilities, thus showing a higher level of commitment to the Internet and firm internationalisation. As such, it is assumed that

international risk-taking propensity will be important for the firm's development of Internet capabilities for international business. International technology-related risk-taking propensity refers specifically to the risk, uncertainty and volatility experienced by firms in making international business-related decisions in Internet environments. For the purpose of this study, risk is delimited to technological and firm internationalisation risk factors only.

2.4.1 International entrepreneurial orientation and performance

With reference to the individual dimensions of entrepreneurial orientation, research suggests that each dimension of entrepreneurial orientation can have a positive influence on the successful performance of the firm (Zahra & Garvis, 2000; Knight, 2001; Wiklund & Shepherd, 2005; Mostafa et al., 2006; Wang 2008). Similarly, international entrepreneurial orientation has been found to have a positive influence on a firm's international performance (see, Knight 2001, Jantunen et al., 2005; Ripollés- Meliá et al., 2007; Kuivalainen, Sundqvist & Servais, 2007). A review of the literature in IE suggests that firms developing an international entrepreneurial orientation perceive new international market opportunities more quickly, outperform competitors, and improve the international market performance of the firm (Knight, 2001; Jantunen et al., 2005; Mostafa et al., 2006; Ripollés- Meliá et al., 2007; Slevin & Terjesen, 2011).

A sustainable international performance may also provide firms with an incoming stream of resources, often used to channel back into the firm's ongoing international business (Knight, 2001; Frishammar & Andersson, 2010). For instance, case study research conducted by Knight (2001) revealed that an international entrepreneurial orientation is a fundamental 'corporate posture', contributing strongly to the international performance of SMEs. However, in the absence of sustainable performance outcomes, the firm will not survive; hence, performance is the single most important dimension of the firm's overall operations (Knight, 2001).

In a study of 808 Swedish SME business managers, Wiklund and Shepherd (2005) identified that entrepreneurial orientation dimensions (i.e. proactiveness, innovativeness and risk-seeking propensity) positively influence the firm's knowledge-based resources

and performance. Similarly, Zahra and Garvis (2000) acquired data from 98 firms based in the United States and identified those entrepreneurial activities positively influencing the international profitability of the firm. The authors of the US-based study concluded that entrepreneurship moderates the relationship between unstable operating environments and successful market performance (Zahra & Garvis, 2000). Similar findings were also identified by Jantunen et al. (2005), who argue that the technological capabilities of a firm offer sustainable competitive advantages in rapidly changing markets, as an international entrepreneurial orientation supports opportunity recognition in new international markets.

Contrary to the findings of Zahra and Garvis (2000) and Wiklund and Shepherd (2005), Lee, Kyungmook and Pennings (2001) identified only weak evidence of a positive relationship between entrepreneurial orientation and performance. The study utilised data from 137 Korean technological start-up firms, to identify that it takes in excess of two years for entrepreneurial orientation to enhance firm performance. However, generalisability of these findings to other country-specific markets and non-technological firms is questionable. Although the relationship between international entrepreneurial orientation and performance remains inconsistent, an overwhelming majority of scholars (e.g. Knight, 2001; Jantunen et al., 2005; Ripollés- Meliá et al., 2007; Moreno & Casillas, 2008; Wang, 2008; Slevin & Terjesen, 2011) indicate that international entrepreneurial orientation can positively influence international market performance.

Research also suggests that international performance can be difficult to operationalise and measure as it is vastly different from organisational effectiveness and firm growth (Dimitratos, Lioukas & Carter, 2004; Wiklund & Shepherd, 2005). Various scholars (e.g. Murphy et al., 1996; Wiklund & Shepherd, 2005) agree that international performance should be measured through at least two different dimensions of performance, preferably including both financial and non-financial performance indicators (Wiklund & Shepherd, 2005).

Understanding the motivation to internationalise can reveal how entrepreneurs define their international arena and how they go about building their international markets (Zahra et al., 2005; Wiklund & Shepherd, 2005). Research suggests that an international

entrepreneur's resources are a crucial determinant in developing a firm's international strategy and ongoing international performance (Mostafa et al., 2006; Reuber & Fischer, 2011). While a number of theoretical frameworks have been developed and advanced over the past decade to explain international firm performance, one predominant perspective utilised in the international business literature has been the RBV (Wernerfelt, 1984; Barney, 1986, 1991).

The RBV implies that differential endowment of firm resources is an important determinant of strategy and international performance (Knight, 2001). Resources include capabilities, information, knowledge and technology. The most critical are those resources such as firm specific capabilities which cannot be brought or sold and which are difficult to imitate. Resources are often utilised by the firm to enable the implementation of strategies that improve the firm's international effectiveness and efficiency, and for SMEs to acquire differential advantage in international markets where possible (Knight, 2001; Wernerfelt, 1984). Knight (2001) suggested that the RBV view rests on two key assumptions: '(i) Firms within any given industry are heterogeneous with regard to the resources they control and (ii) resources are not perfectly mobile across firms and hence, heterogeneity tends to be long-lasting' (p. 158). As such, RBV theory helps to explain how possession of superior managerial orientations, strategic approaches, and other such factors can serve as important advantages in the international activities of SMEs.

2.5 Framework two: Resource and capability view of the firm

The second theoretical framework this thesis draws from is the RBV of the firm. Recently, RBV has been extended to include the dynamic capabilities approach (Teece et al., 1997), which is the firm's ability to achieve performance in markets characterised by rapid change (Teece, 2007). As such, the RBV of the firm will be discussed, followed by the dynamic capability view of the firm.

2.5.1 Resource-based view of the firm

Edith Penrose (1959) was one of the first scholars to identify the importance of resources for a firm's international growth. In 1959, Penrose argued that a firm's growth, both

internally and externally (globally), is due to the manner in which the firm's resources are employed. She began by arguing that a firm is a 'collection of productive resources' (Penrose, 1959, p. 24), and continued by suggesting that resources will only contribute to a firm's competitive global position to the extent that they are exploited. Penrose (1959, p. 136) argued that 'a firm with resources available for expansion over and above those required to maintain its position... may well find that opportunities for expansion into new areas look more promising than further expansion into existing areas'. This resource explanation by Penrose (1959) has laid the conceptual foundation of how certain firms, which have achieved local market success, look to exploit international opportunities beyond those that exist domestically. While a number of theoretical frameworks have been developed and advanced over the past decade to explain international firm performance, one of the predominant perspectives has been the RBV (Wernerfelt, 1984; Barney, 1986, 1991). Seminal work produced by Wernerfelt (1984) and Barney (1986, 1991) has provided the foundation for studies in the RBV stream. These foundation RBV studies will be discussed further.

Firm-level resources are at the core of the RBV. The RBV is an influential theoretical framework developed to comprehend how competitive advantage within firms is attained and how this advantage can be sustained (Penrose, 1959; Nelson & Winter, 1982; Barney, 1986; Wernerfelt, 1984; Teece, 1986, Barney, 1991). Wernerfelt (1984) explored the usefulness of analysing firms from a resource rather than a product perspective. Wernerfelt states that 'for the firm, resources and products are two sides of the same coin' (1984, p. 171), and further argues that by specifying a resource profile a firm can identify the minimum resource requirements necessary for growth. Wernerfelt (1984) identified resources as important antecedents for product development and ultimately firm performance. Building on the foundation provided by Wernerfelt (1984), Barney (1991) provided what has been argued as the 'most detailed and formalised depiction' (Priem & Butler, 2001) of business-level RBV.

To a large extent most of the empirical research on the RBV has relied on Barney (1991) or further extensions of his seminal work. According to Barney (1986, 1991), sustained competitive advantage and superior international market performance are derived from

the resources and capabilities a firm possesses, which are valuable, rare, difficult to imitate and non-substitutable (Barney 1991; Barney, Wright & Ketchen, 2001; Barney, 2001). Barney (1991) argues that two key assumptions are essential to the RBV: Firstly, that firm-level resources are distributed heterogeneously across firms, and secondly, that productive resources cannot be transferred from firm to firm (Barney, 1991; Priem & Butler, 2001). Referred to in the literature as being 'sticky', firm-level resources are unique because they cannot be readily assembled through markets, nor can they be brought or sold (Teece, 1982). These firm-level resources and capabilities have been considered as 'bundles' of tangible and intangible assets, including a firm's management skills, its organisational processes and routines, and the information and knowledge the firm possesses (Barney, 2001). That is, collectively, these core firm-level resources contribute to the creation of a unique resource bundle.

The findings of Wernerfelt (1984) and Barney (1991) are fundamentally similar in that both argue that unique value-creating resources will generate a sustainable competitive advantage to the extent that no competitor has the ability to utilise the same type of resource, either through acquisition or imitation. From this value-creating resource perspective, firms are perceived to be heterogeneous with respect to their resources (Barney, 1991) and capabilities (Teece et al., 1997). That is, firms possess unique firm-level resources and capabilities that are different from every other firm, albeit in the same operating environment or different industry sector. These firm capabilities, competencies and routines are characterised by firm resources, which in turn can lead to superior domestic and international performance, particularly for firms operating in highly competitive and complex environments (Teece et al., 1997).

It has been argued in the literature that the accumulation of valuable firm-level resources is not enough to support a firm's sustainable competitive advantage, especially for firms operating in fast-changing dynamic environments (Griffith & Harvey, 2001; Wu, 2006; Augier & Teece, 2007; Teece, 2007; Døving & Gooderham, 2008; Makadok, 2001; Ambrosini & Bowman, 2009). Instead, a firm must also possess capabilities so as to continually adapt, integrate, reconfigure and redeploy its resources and capabilities to exploit the opportunities of complex changing environments (Teece & Pisano, 1994;

Teece et al., 1997; Augier & Teece, 2007, Teece, 2007). In this regard, the dynamic capability view of the firm will be discussed.

2.5.2 Dynamic capability view of the firm

It has been argued that the accumulation of valuable resources is not enough to support a firm's sustainable competitive advantage (Teece et al., 1997), especially for firms that operate in fast-changing dynamic Internet environments. For instance, small international entrepreneurial firms most often cannot afford to make costly mistakes in wrongful resource commitments, but instead have to be highly alert, flexible and adaptive (Liao et al., 2009). Research suggests that a firm must also possess capabilities so as to continually adapt, integrate, reconfigure and redeploy resources and capabilities to exploit the opportunities of changing environments (Teece et al., 1997; Vogel & Güttel, 2013). In this regard, Teece and Pisano (1994) proposed the dynamic capability view to include dynamic markets. This means that firms can ultimately re-deploy resources and capabilities to respond to changing market circumstances in environments characterised by rapid and unpredictable change. This is particularly important for small firms as their inherent flexibility enhances the ability of the firm to transform ideas into business activities that support the business's international performance strategies (Weerawardena, Mort, Liesch, & Knight, 2007; Lewin & Massini, 2003; Wu, 2006; Liao et al., 2009).

The dynamic capability view is an extension, or subset of the RBV. The dynamic capability view typically involves a firm's long-term commitment to specialised resources in dynamic and rapidly changing environments, such as those markets characterised by high technology-mediated change (Winter, 2003; Vogel & Güttel, 2013). Elements of the dynamic capabilities approach can be found in the work of Penrose (1959), Nelson & Winter (1982), Barney (1986, 1991) and Teece (1986, 1997). The literature characterises dynamic capabilities as complicated routines and processes embedded in firms (Teece, 1997). More precisely, Makadok (2001, p. 398) defines dynamic capabilities as a 'special type of resource, specifically organizationally embedded, non-transferable, firm-specific resources whose purpose is to improve the productivity of other resources possessed by the firm'. Because the dynamic capabilities framework is still in nascent form (Easterby-Smith et al., 2009), and the notion of the capabilities has been applied to different

research streams, terminological confusion and inconsistencies about what constitutes a dynamic capability and how they can be captured remain. And despite the growing number of international business studies employing a dynamic capability approach, the search for enhanced and continued understanding around the topic continues to be of importance (Wang & Ahmed, 2007). Terminological confusion within the framework exists, and as a result the literature features mixed use dynamic capabilities at both firm and industry specific levels, leading to a unified topic area (Wang & Ahmed, 2007). For instance, the literature states that there are inherent commonalities between the firms and their use of dynamic capabilities, although identification of these ‘commonalities’ between capability deployment are not present within the current body of knowledge.

Research suggests that capabilities are responses to the need for change required to identify new international opportunities (Easterby-Smith et al., 2009). These changes can involve the transformation of organisational processes, as well as the allocation of resources and operations. This changing nature and allocation of resources is a crucial component of the dynamic capability view (Easterby-Smith et al., 2009). That is, a firm’s international performance is contingent firstly on a portfolio of capabilities, and secondly, on the firm’s potential to reconfigure, diversify and deploy the capabilities for international market entry (Prange & Verdier, 2011). In a study of 120 entrepreneurs of Internet-based organisations, Liao et al., (2009) examined the innovative, dynamic capabilities of firms drawing from the RBV and dynamic capabilities. Consistent with the dynamic capability perspective, Liao et al., (2009) differentiate between a firm’s resource stock and its dynamic capability. Described as an integrative capability, Liao et al., (2009) suggest the term ‘integrative capability’ to describe a firm’s capability in configuring and reconfiguring its resource stock and deploying and redeploying resources to capture and exploit the opportunities established by changing market environments.

More recently, Teece (2007), reflecting on the work of Teece et al., (1997) delineates between the two main characteristics of the varying components of the dynamic capability view. The external-oriented view comprises characteristics that include sensing, detecting, filtering and identifying market opportunities (Liao et al., 2009). The internal view primarily deals with seising, capitalising, and exploiting opportunities

through ‘intra-firm’ structures, procedures, designs and incentives (Liao et al., 2009). That is, the firm is strategically placed to identify international market opportunities – externally – and well-positioned to exploit these opportunities by establishing *internal* procedures to capitalise on opportunity identification. Opportunity-recognising capabilities have been argued to be associated with the dimensions of managerial processes, information and networks through which external information and knowledge can be identified and utilised within the firm (Knight & Cavusgil, 2004; Sher & Lee, 2004, Liao et al., 2009). These *external* capabilities are especially important for technology-based firms and their international market performance, given the changing nature of the Internet environment.

Dynamic capabilities can be differentiated from operational-level capabilities or zero-level capabilities, which are exercised at the stationary level and permit the firm to ‘make a living’ (Winter, 2003). These operational-level capabilities enable the use of activities on an ongoing basis using more or less the same techniques to support existing products and services for customers (Helfat & Winter, 2011). Winter (2003) defines operational capabilities as ‘*a high level routine (or collection of routines) that, together with its implementing input flows, confers upon an organization a set of decision options for producing significant outputs of a significant type.*’ There is a broad consensus in the literature that dynamic capabilities are concerned with ‘change’ and therefore differ from ‘operational’ level capabilities (Winter, 2003).

The literature highlights that dynamic capabilities also govern the rate of change of operational-level capabilities (Collis, 1994; Winter, 2003). Winter (2003) also refers to operational-level capabilities as the ‘how we earn a living now’ capabilities. Without the presence of such capabilities it would be difficult for the firm to make a profit or invest in inputs to that would see the creation of new business. The literature suggests that further research into examining the relationship between capabilities and the firm’s superior international market performance is warranted (Freeman, Styles & Lawley, 2012). The ability to generate superior customer value through marketing-related processes has long been suggested as a critical factor in contributing to the firm’s international market performance (Day, 1994). As such, Internet, international marketing capabilities can be

framed within the capability framework (Knudsen & Madsen, 2002; Ray, Barney & Muhanna, 2004; Ray, Muhanna & Barney, 2005). This research therefore situated within a capability framework which can be distinguished from the dynamic capability view of the firm.

Superior international market performance is argued to be an outcome of the firm's entrepreneurial and managerial knowledge (Penrose, 1959). Although capabilities may not be sufficient to guarantee international market performance enhancement, Internet, international marketing capabilities are a necessary factor for enhanced international market performance (Sher & Lee, 2004). This statement is of particular importance for internationally focused SMEs, which often operate in fast-changing environments. International marketing capabilities allow SMEs to respond and adapt flexibly and in a timely manner to change and environmental uncertainties (Sher & Lee, 2004). This flexibility of SMEs enhances the ability to transform processes into business activities that support the international market performance of the firm (Lewin & Massini, 2003). Research also argues that the internationalisation of entrepreneurship is increasingly facilitated through the use of the Internet (Etemad et al., 2010).

It has been suggested that the overall success of an SME in international markets relies heavily on the capacity of the firm to change and adapt to new developments such as Internet-related applications, and embed these developments in the social and technical infrastructures of the firm (Buttriss & Wilkinson, 2003). The exploitation of the Internet's capabilities is essential for any business activity or firm that intends to expand internationally. Accordingly, while a mere Internet presence implies instant internationalisation from a technological perspective; this is limited because the successful deployment of a virtual presence is restrained by the functional and organisational capabilities of the firm (Kotha et al., 2001). That is, a website presence does not automatically assume a business is instantly international. Instead, to survive and grow in highly competitive Internet business environments, firms have to search beyond their current resource base (Liao et al., 2009). Simply redeploying the firm's current resources in dynamic fast-changing Internet environments will not suffice for business performance.

The literature states that accumulating valuable resources is not enough to support international market performance (Teece et al., 1997; Vogel & Güttel, 2013). In this regard, the RBV and capability view of the firm will have important implications for international entrepreneurial SMEs by allowing firms, firstly, to identify their resource base, and, secondly, to leverage the firm's resources capabilities to effectively reconfigure, renew and redeploy competencies to improve international market performance. This is because Internet environments render seemingly sustainable competitive advantages and international performance obsolete (Liao et al., 2009). Instead, research shows that superior international market performance arises from a firm's capacity to constantly rejuvenate and redeploy the firm's resource capabilities.

In addition, there has been limited empirical research (see, Mostafa et al., 2006; Wu, 2006; Liao et al., 2009) aimed at uncovering 'bundles' of capabilities that characterise firms, and the explicit link between the possession of a firm resources, Internet capabilities and international performance. As such, this research gives way to examining the internationalisation process of firms through the lens of a firm's resources and capabilities perspective. This is because when firms extend their international activities, they often accumulate resource capabilities to improve their international performance. Drawing on the RBV (Barney, 1986, 1991, 2001; Barney et al., 2001) and the capability view of the firm (Winter, 2003), this research will aim to make an important contribution by extending the RBV and capabilities to the IE literature, by empirically examining the relationship between firm-level resources and Internet capabilities and international market performance. Research also indicates that a firm's ability to recognise and exploit international opportunities is dependent on the internal resources of the firm (Reuber & Fischer, 1997; Priem & Butler, 2001; Chen, Zou & Wang, 2009; Frishammar & Andersson, 2010; Bell & Loane, 2010; Prange & Verdier, 2011). The following section examines the firm-level resources that have been highlighted in the IE literature as being important factors that may positively influence the international market performance of the firm.

2.5.3 International entrepreneurial firm-level resources and capabilities

The IE literature identifies a number of international entrepreneurial firm-level resources and capabilities expected to be related to the firm's international market performance, including: (i) technology-related international vision; (ii) international business experience and capabilities; and (iii) international virtual networking capabilities. These firm-level resources and capabilities will be discussed further below.

(i) Technology-related international vision

Research suggests that an entrepreneur's international vision is essential for the firm's progression into international markets (Tesar & Tarleton, 1982; Aspelund & Moen, 2004; Johnson, 2004, Andersson & Evangelista, 2006). Described as playing an important role in the development of international strategies for small business (Andersson & Evangelista, 2006), the international vision of the entrepreneur has been found to be a principal factor in the internationalisation of SMEs (Johnson, 2004). For instance, research suggests that small, high technology-mediated firms are often driven by vision to be international at or near inception, and often engage in early internationalisation activities in order to maintain competitiveness, be successful and grow (Johnson, 2004; Loane & Bell, 2006).

An important component of business-seeking international market expansion and performance, an international entrepreneur's vision enables the firm to seek out new international opportunities aggressively (Autio, Sapienza & Almeida, 2000; Nummela, Sapienza & Almeida, 2004). For example, Aspelund and Moen (2004) found that small technology-intensive firms with an international vision and a focus on the customer in international markets are better able to create competitive advantages internationally. The SME study by Aspelund and Moen (2004) highlights that the international vision of management, combined with the use of the Internet, facilitated the niche international strategies and competitive advantage of small Norwegian exporting firms. Although this seminal study only validates a single international entrepreneurial cognitive attribute, its findings highlight the importance of IE within Internet marketing research.

Research (Oviatt & McDougall, 1994; Autio et al., 2000; Aspelund & Moen, 2004; Andersson & Evangelista, 2006) suggests that in many instances it is the manager's drive and international vision that facilitates international market expansion, enabling firms to seek out new business opportunities. However, studies examining the influence of the international entrepreneurs' vision in the pursuit of international market performance in an Internet context are limited in scope and detail (Aspelund & Moen, 2004; Johnson, 2004; Mostafa et al., 2006). In this regard, further research examining international vision from an IE perspective in an Internet context is warranted.

(ii) International business experience

The international business literature highlights that prior international business experience of the entrepreneur may influence the international market performance of the firm (Dyer & Handler, 1994; Loane & Bell, 2002; Fischer & Reuber, 2003; Hutchinson et al., 2006; Wang, 2008). Research suggests that international experience can have an important effect upon entrepreneurial firms, particularly on the initial decision to expand and the continuation of the firm's international strategy (Dyer & Handler, 1994; Loane & Bell, 2002; Fischer & Reuber, 2003; Hutchinson et al., 2006; Wang, 2008). According to Westhead, Wright and Ucbasaran (2001), entrepreneurial firms with diverse management know-how and international experience may be able to undertake more promising competitive strategies and opportunities in international markets, more so than larger sized competitors.

Knowledge, as embedded in the international entrepreneur from previous experience (Reuber & Fischer, 1997), also plays an important role in the garnering of firm resources for internationalisation. Two kinds of international experience relate to the ownership of previous firms. They include previous experience in an entrepreneurial firm and participation in previous business start-ups, or start-up experience (Dyke, Fischer & Reuber, 1992; Busenitz, West, Shepherd, Nelson, Chandler & Zacharakis, 2003). An additional source of experience lies with the entrepreneur's family (Loane & Bell, 2002).

Individuals who have observed family members managing businesses are more likely to start businesses of their own (Hisrich & Brush, 1984). Although international business

experience of the manager is widely recognised as a vital asset for firms (Dyer & Handler, 1994; Reuber & Fischer, 1997; Westhead et al., 2001; Loane & Bell, 2002; Chetty & Campbell-Hunt, 2004; Andersson & Evangelista, 2006; Schwens & Kabst, 2009), studies examining the international experience of managers in an Internet context are limited (see, Poon & Swatman, 1997). As such, the link between the prior international experience of international entrepreneurs and the international performance of firms in an Internet context has not yet been established.

(iii) International virtual networking capabilities

Network theory depicts markets as a web of relationships among a number of players, encompassing customers, suppliers, distributors, competitors and private and public support agencies (Coviello & Munro, 1995; Oviatt & McDougall, 1995; Etemad, 2001; Loane, 2006). International entrepreneurial firms seeking to internationalise can leverage and take advantage of these network players. Numerous scholars (see, Coviello & Munro, 1995; Oviatt & McDougall, 1995; Poon & Jevons, 1997; Hite & Hesterly, 2001; Lee et al., 2001; Coviello & Cox, 2007; Rothaermel, 2007) have suggested that network relationships play an important part in internationalisation, particularly allowing firms to overcome resource constraints. Case study research further suggests that firms with extensive international networks internationalise quicker and more successfully than established firms (Oviatt & McDougall, 1995; Mort & Weerawardena, 2006).

The value of international networks as an integral part of the explanation of international entrepreneurial success is also acknowledged in the literature (Coviello & Munro, 1995; Dimitratos & Plakoyiannaki, 2003; Mort & Weerawardena, 2006; Loane, 2006; Loane & Bell, 2006). For instance, drawing from IE theory, Mort and Weerawardena (2006) found that international networking capabilities enable exploitation of international market opportunities. For instance, Andersson and Victor (2003) identified that the international entrepreneurs they studied all had a vision for their strategy to be enacted globally, and that all had extensive international experience, either in business, as students or through informal ties. It is also widely suggested that the Internet has provided entrepreneurial SMEs with new ways to conduct and develop international business, communicate ideas, and exchange information (Aspelund & Moen, 2004; Bell & Loane, 2010).

The literature suggests that international networks in an Internet context are an important and unique firm resource (Loane, 2006; Etemad et al., 2010; Reuber & Fischer, 2011). The Internet has also been found to be associated with increased international business outcomes, allowing firms to identify new international market opportunities through integration of international networks via the Internet (Mostafa et al., 2006; Bell & Loane, 2010; Reuber & Fischer, 2011). Further, the Internet has also been found to play a pivotal role in the creation of international relationships and is a mechanism for the creation of international growth opportunities in SMEs (Mathews & Healy, 2008). As such, it can be said that international networks remain an important part of any international firm operating in a complex Internet environments. Although the Internet has been found to play a pivotal role in the creation of international relationships and is a mechanism for the creation of international growth opportunities in SMEs (Mathews & Healy, 2008), the role of the international entrepreneurial decision-maker in the development of international virtual networks for leveraging opportunities in internationalisation remains unclear (Mort & Weerawardena, 2006). That is, the explicit link between international virtual network capabilities and international market performance outcomes remains vague.

2.6 Summary of research gaps and questions

To summarise, three gaps in existing research have been identified from the literature review. In this section, the key research gaps are briefly discussed, and the subsequent research questions are presented. Firstly, the literature states that international market performance can be optimised when the firm is internationally market-orientated and entrepreneurial. In order for firms to seize the international opportunities that a dynamic Internet environment presents, international entrepreneurial firms must first identify the firm-level resources and Internet capabilities that could lead to international market performance. Further, limited research attempts to explain how Internet capabilities in conjunction with firm-level resources influence the international market performance of the firm. As such, research question one (RQ1) has been established:

RQ1: What are the firm-level resources and Internet, international marketing capabilities of firms, and how do they influence international performance?

Secondly, it is evident that an essential step in moving the field of IE forward is the incorporation of Internet phenomena into the current understanding of how firms are achieving international market performance outcomes. More recently, Wilden, Gudergan, Nielsen and Lings (2013) suggest that research exploring capabilities will benefit from modelling the mediation effects of capabilities. As such, sub-research question (RQ2a) was developed:

RQ2a: What is the relative influence of firm-level resources and Internet, international marketing capabilities on international performance?

Thirdly, research highlights the positive impact of the Internet on the firm, but neglects the significant influence of the international entrepreneur's role in exploiting firm-level resources and Internet, international marketing capabilities for firm performance. As such, the second sub-research question (RQ2b) has been established:

RQ2b: How do international entrepreneurs leverage Internet, international marketing capabilities for international performance?

Overall, an evaluation of seminal papers contributing to the understanding of IE in an Internet environment, as shown in Table 2.2, indicates that only 13.8% of IE research papers published in the past decade (from a sample of IE papers) explored IE from an Internet perspective. Predominantly, research highlights the positive impact of the Internet on the firm, yet research papers that investigate the Internet and IE combined are limited. As such, Table 2.2 shows that with the exception of a small number of studies (see, Aspelund & Moen, 2004; Loane et al 2004; Loane 2006; Mostafa et al, 2006; Reuber & Fischer, 2011), researchers to date have paid limited attention to the relationship between IE and Internet capabilities for the international business outcomes of the firm; despite research suggesting that the Internet is one of the most important tools

for an internationally focused business (e.g. Petersen et al., 2002; Mostafa et al., 2006; Mathews & Healy, 2007).

Traditional internationalisation theories (see, Johanson & Vahlne, 1977; Cavusgil, 1984) have for decades concentrated on analysing internationalisation as a process over time, where firms gradually increase their international market commitment. A review of IE papers from an Internet perspective indicates that incremental internationalisation process theories are now out-dated in explaining differential results of a firm's international performance (Sapienza, Autio, George & Zahra, 2006). For example, in the past decade the sample of papers published indicates that only 13.8% of research papers incorporated incremental process theories into their research. Instead, scholars now analysing the internationalisation process of firms through, for example, the resource and capabilities perspective (Stray, Bridgewater & Murray, 2001; Moen & Servais, 2002; Fischer & Reuber, 2003; Oviatt & McDougall, 2005; Reuber & Fischer, 2011).

While a number of theoretical frameworks have been developed and advanced over the past decade to explain international firm performance, one predominant perspective utilised in the international business literature has been the RBV (Wernerfelt, 1984; Barney, 1986, 1991). The RBV of the firm is an influential theoretical framework developed to comprehend how competitive advantage within firms is attained and how this advantage can be sustained (Nelson & Winter, 1982; Barney, 1986; Wernerfelt, 1984; Teece, 1986, Barney, 1991). This research draws from the RBV of the firm as a theoretical underpinning to explain how firms achieve international firm performance.

Table 2.2 Evaluation of seminal Internet and international entrepreneurship papers

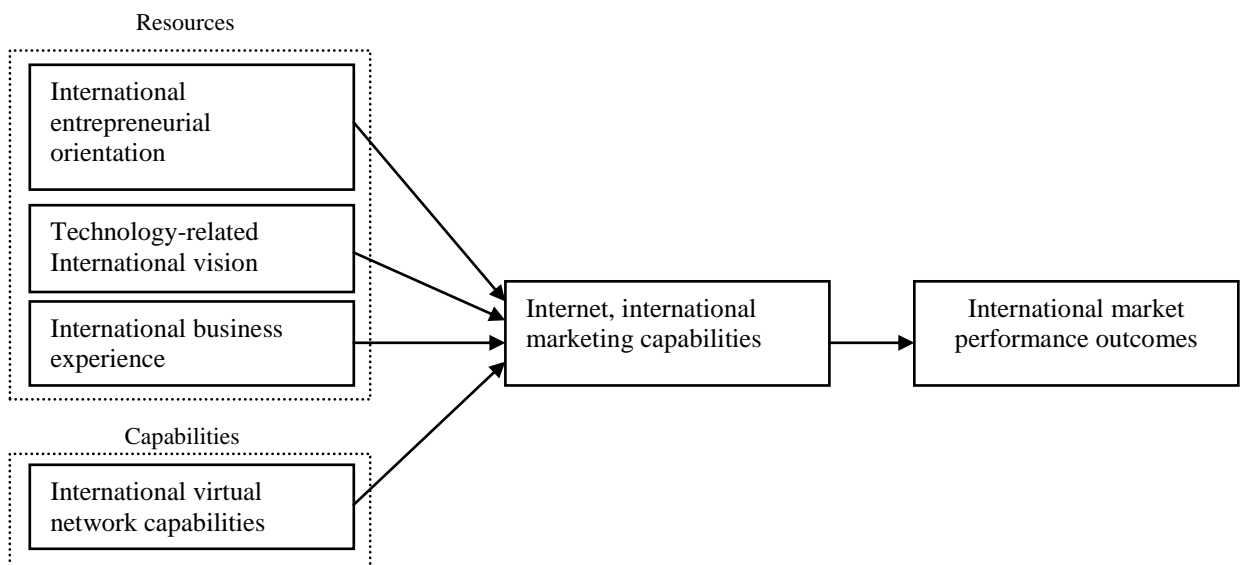
Author/s & publication date	Approach	Firm Focus	Industry	IIE	IE	RBV	DCV	Internationalisation
1. Hamill, 1997	Conceptual	SMEs	Software, education, telecommunications & manufacturing					|
2. Poon & Swatman, 1997	Empirical	SMEs	Services industry		|			
3. Lituchy & Rail, 2000	Empirical	SMEs	Hospitality industry			|		
4. Knight, 2001	Empirical	SMEs	Electronic and electrical equipment and textile mill products		|			
5. Stray, Bridgewater & Murray, 2001	Empirical	SMEs	Technology-based firms			|		
6. Moen Servais, 2002	Empirical	SMEs	Goods and service firms			|		
7. Bell, McNaughton, Young & Crick, 2003	Empirical	SMEs	Goods and service firms		|			
8. Buttriss & Wilkinson, 2003	Conceptual	SMEs	Goods and service firms			|		
9. Fischer & Reuber, 2003	Empirical	SMEs	Exporting good and service firms			|		
10. Katz, Safranski & Khan, 2003	Empirical	SMEs	Software-based firms		|			
11. Wright & Dana, 2003	Conceptual	SMEs	Goods and service firms		|			
12. Aspelund & Moen, 2004	Empirical	SMEs	High-tech information technology firms			|		
13. Bell, Crick & Young, 2004	Empirical	SMEs	Manufacturing firms			|		
14. Dholakia & Kshetri, 2004	Empirical	SMEs	Goods and service firms			|		|
15. Johnson, 2004	Empirical	SMEs	High-technology international start-ups		|	|		|
16. Loane, McNaughton & Bell, 2004	Empirical	SMEs	Consultancy, software & service online		|			
17. Bhuiyan, Menguc & Bell, 2005	Empirical	SMEs	CEOs of hospitals		|	|		
18. Oviatt & McDougall, 2004	Conceptual	SMEs	No industry focus		|			
19. Oviatt & McDougall, 2005	Conceptual	SMEs	No industry focus		|			
20. Prashantham, 2005	Conceptual	SMEs	No industry focus					|
21. Ramsey & Ibbotson, 2005	Empirical	SMEs	Service sector firms		|			
22. Arenius, Sasi & Gabrielsson, 2006	Empirical	SMEs	Manufacturing firms		|	|		
23. Loane, 2006	Empirical	SMEs	Goods and services firms		|	|		
24. Mostafa, Wheeler & Jones, 2006	Empirical	SMEs	Manufacturing SME exporters	|	|	|		
25. Nieto & Fernandez, 2006	Empirical	SMEs	Manufacturing firms					|
26. Sinkovics & Bell, 2006	Empirical	SMEs	Goods and service firms	|				
27. Sinkovics & Penz, 2006	Empirical	SMEs	Goods and service firms		|			
28. Styles & Seymour, 2006	Conceptual	SMEs	No industry focus		|			
29. Weerawardena, Mort, Liesch & Knight, 2007	Conceptual	SMEs	Born-global	|		|	|	
30. Forsgren & Hagström, 2007	Empirical	No firm focus	Internet-related firms			|		
31. Mathews & Zander, 2007	Empirical	No firm focus	No industry focus		|			
32. Gabrielsson & Pelkonen, 2008	Empirical	No firm focus	Internet consultancy firms		|			
33. Liao, Kickul & Ma, 2009	Empirical	No firm focus	Internet-related firms	|	|	|		
34. Etemad, Wilkinson & Dana, 2010	Conceptual	No firm focus	Internet-based firms		|			
35. Reuber & Fischer, 2011	Conceptual	No firm focus	No firm focus	|	|			
36. Prange & Verdier, 2011	Conceptual	No firm focus	No industry			|	|	
Aggregate concentration of research				5/36	21/36	17/36	2/36	5/36

Note.
 IIE= Internet and International entrepreneurship combined, IE= International entrepreneurship, RBV= Resource-based view of the firm, DCV= Dynamic capability view of the firm.

2.7 Proposed conceptual model

Drawing on the RBV of the firm, this research will make an important contribution by exploring the international entrepreneurial firm-level resources and Internet capabilities that are expected to be related to the firm's pursuit of international market performance. The research gaps highlighted in the literature review are addressed by the development of a conceptual model illustrated in Figure 2.4. Based on the IE literature, Figure 2.4 shows three firm-level resources are expected to be positively related to a firm's successful international market performance: *international entrepreneurial orientation*, *technology-related international vision* and *international business experience*. The Internet capabilities in the model include; *Internet*, *international marketing capabilities* and *international virtual network capabilities*. The proposed theoretical model will be utilised as the basis for research investigation in Study One.

Figure 2.4 Proposed conceptual model of firm-level resources and Internet capabilities



Note. The conceptual model shows mediation through 'Internet, international marketing capabilities'. It is expected that mediated relationships will be observed in relation to resources and capabilities through Internet, international marketing capabilities.

2.8 Conclusion

Chapter Two has presented a synthesis of the literature pertaining to IE and the resource-based view of the firm. Specifically, this chapter has discussed the influence of the Internet on IE and introduced the capability view of the firm. In particular, the chapter has discussed international entrepreneurial orientation, including international innovativeness, international proactiveness and the international risk-taking propensities of entrepreneurs. This chapter has also addressed the literature related to technology-related international vision, international business experience, Internet, international marketing capabilities, and international virtual network capabilities. An evaluation of the literature has identified three key gaps that provide opportunities for further research investigation. Subsequently, three research questions were developed to assist in filling the research gaps. In the following chapter, the methodology for Study One will be discussed.

3.1 Introduction

Chapter Three provides a detailed discussion of the qualitative methods and procedures for gathering and analysing data in Study One. The aim of Study One is to address research question one (RQ1); ‘*What are the firm-level resources and Internet, international marketing capabilities of firms, and how do they influence international performance?*’ The purpose of Study One is to identify the firm-level resources and Internet capabilities expected to be related to the firm’s international market performance, through the utilisation of multiple case study methodology.

The findings of the data presented in Table 3.1 indicate the research methods adopted by seminal scholars investigating IE in an Internet environment from the period of 1997 to 2011. The findings in Table 3.1 indicate that multiple case study research is lacking within IE, contributing to only 19.4% out of a possible 41.6% of qualitative studies. This is unexpected given that it has been suggested that the multiple case study methodology is suitable for the development of new theory (Eisenhardt, 1989). Scholars have also suggested that existing research models are limited in capturing the specific firm-level resources and capabilities required for a firm’s internationalisation in an Internet environment (Knight, 2001; Mostafa et al., 2006). Only a proportion of research in IE employs a mixed method research design (16.6%). Because IE in an Internet context remains at a relatively nascent stage, scholars have argued that employing both qualitative and quantitative methodologies will help research contributions in IE to move away from basic conceptualisations to identify new theories and statistical validation of constructs (Knight, 2001; Zahra & George, 2002; Oviatt & McDougall, 2005).

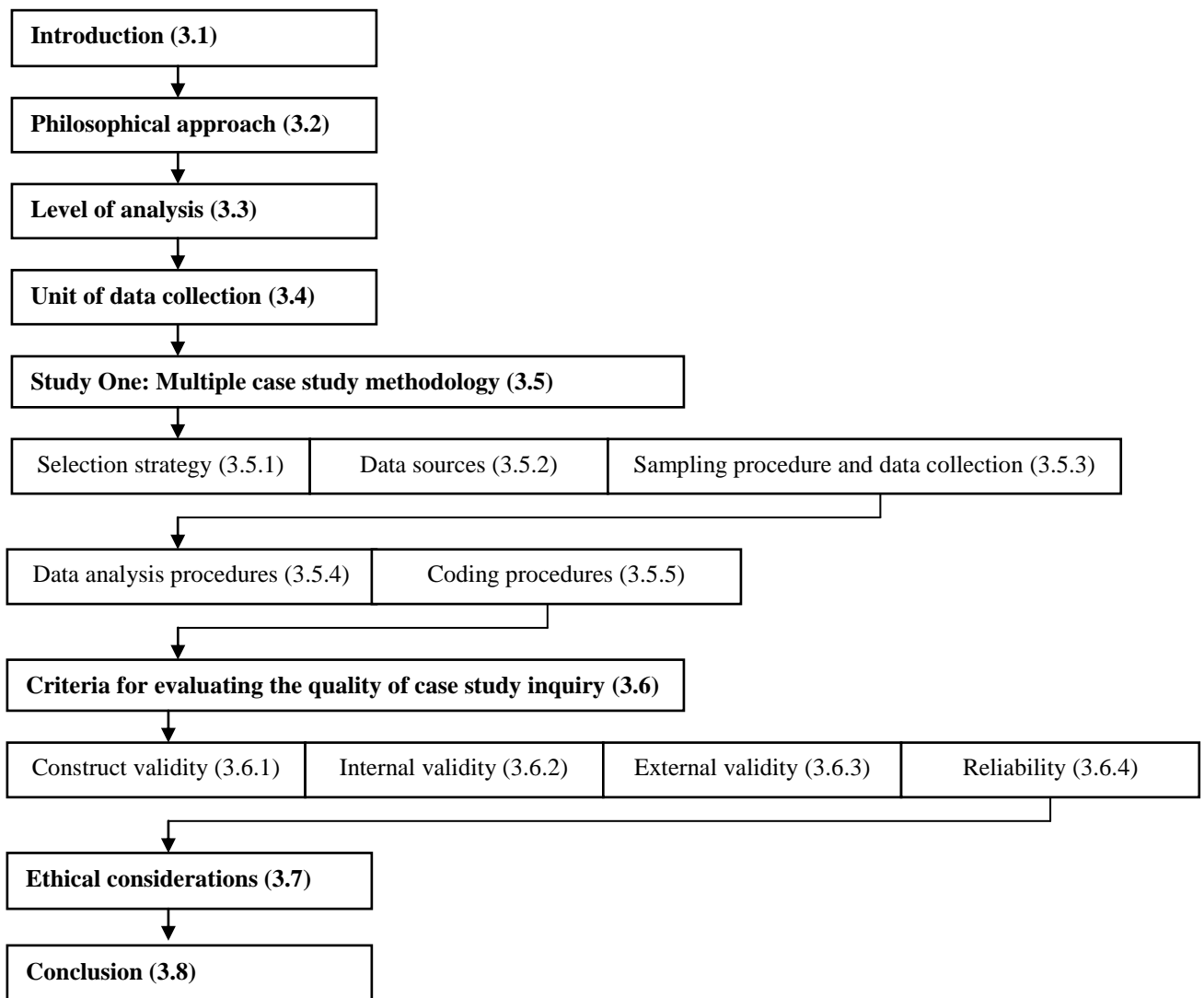
Table 3.1 Research methods: International entrepreneurship in an Internet context

<i>Author/s & publication date</i>	Methodology					
	Mixed-method approach	Conceptualisation paper	Quantitative methodologies	Qualitative methodologies	Interviews	Case study inquiry
1. Hamill, 1997						
2. Poon & Swatman, 1997						
3. Lituchy & Rail, 2000						
4. Knight, 2001						
5. Stray, Bridgewater & Murray, 2001						
6. Moen Servais, 2002						
7. Bell, McNaughton, Young & Crick, 2003						
8. Buttriss & Wilkinson, 2003						
9. Fischer & Reuber, 2003						
10. Katz, Safranski & Khan, 2003						
11. Wright & Dana, 2003						
12. Aspelund & Moen, 2004						
13. Bell, Crick & Young, 2004						
14. Dholakia & Kshetri, 2004						
15. Johnson, 2004						
16. Loane, McNaughton & Bell, 2004						
17. Bhuiyan, Menguc & Bell, 2005						
18. Oviatt & McDougall, 2004						
19. Oviatt & McDougall, 2005						
20. Ramsey & Ibbotson, 2005						
21. Prashantham, 2005						
22. Arenius, Sasi & Gabrielsson, 2006						*
23. Loane, 2006						
24. Mostafa, Wheeler & Jones, 2006						
25. Nieto & Fernandez, 2006						
26. Sinkovics & Bell, 2006						
27. Sinkovics & Penz, 2006						
28. Styles & Seymour, 2006						
29. Weerawardena, Mort, Liesch & Knight, 2007						
30. Forsgren & Hagström, 2007						
31. Mathews & Zander, 2007						
32. Gabrielsson & Pelkonen, 2008						
33. Liao, Kickul & Ma, 2009						
34. Etemad, Wilkinson & Dana, 2010						
35. Reuber & Fischer, 2011						
36. Prange & Verdier, 2011						
Aggregate choice of methodology	6/36	13/36	14/36	15/36	10/36	7/36
Proportions: (I) CONCEPTUALISATION, (II) QUANTITATIVE, (III) QUALITATIVE METHODOLOGIES	16.6%	36.1% (I)	38.8% (II)	41.6% (III)	27.7%	19.4%

Note. * Single embedded case

Chapter Three commences by considering the philosophical approach upon which the research is founded. Further concepts addressed in this chapter include the unit of data analysis, unit of data collection, selection strategy, data sources, sampling procedure and data collection, data analysis procedures, coding procedures, the criteria for evaluating the quality of case study inquiry by construct validity, internal validity, external validity and reliability. Ethical considerations are also discussed and concluding comments provided for Chapter Three. A diagrammatic overview of Chapter Three can be seen in Figure 3.1.

Figure 3.1 Diagrammatic overview of Chapter Three



3.2 Philosophical approach

A research paradigm is defined as a ‘set of beliefs that guide action’ (Guba, 1990, p. 17). All researchers work within a specific research paradigm, where a paradigm is a set of linked assumptions about the reality that is shared by those investigating the world (Deshpande, 1983). Scholars often reflect on their philosophy of science through examination of their ontological, epistemological and methodological assumptions or premises in relation to research paradigms, thus applying research methods consistent with their assumptions (Guba, 1990). Briefly, a research paradigm addresses four areas: ethics, ontology, epistemology and methodology (Denzin & Lincoln, 2011).

Ethics asks, “How will I be a moral person in the world?” (Denzin & Lincoln, 2011). Eriksson and Kovalainen (2008) argue that ethical principles govern all research activities, including the way research is conducted and reported. Addressing the issue of ethics also adds to the credibility of the research study (Eriksson & Kovalainen, 2008). Ontology raises basic questions about the nature of the reality and the nature of the human being in the world (Guba, 1990) – for instance, about the existence of relationships between people, society and the world as a whole. Epistemology is the relationship between the inquirer and the known, or the researcher and the reality (Denzin & Lincoln, 1994). That is, epistemology defines how knowledge can be produced and argued for (Eriksson & Kovalainen, 2008). Finally, methodology focuses on the best means for acquiring knowledge about the world (Denzin & Lincoln, 1994).

This research adopts Denzin and Lincoln’s (1994) notion that the basic beliefs of alternative inquiry paradigms exist along a continuum, and consist of positivism, postpositivism, critical theory and constructivism. A summary of the basic beliefs systems as proposed by Denzin and Lincoln (1994) can be seen in Table 3.1. These basic belief systems will be discussed next, followed by a justification of the paradigm adopted in this thesis.

Table 3.2 Basic beliefs of alternative inquiry paradigms

Item	Positivism	Postpositivism	Critical theory	Constructivism
Ontology	Naive realism; “real” reality but apprehendable	Also known as critical realism; ‘real’ reality but only imperfectly and probabilistically apprehendable	Historical realism. Virtual reality shaped by social, political, cultural, economic, ethnic, and gender values; crystallised over time	Relativism/ interpretivism. Local and specific constructed realities
Epistemology	Dualist/ objectivist; findings are true	Modified dualist/ objectivist: critical tradition/ community; findings are probably true	Transactional/ subjectivist; value-mediated findings	Transactional/ subjectivist; created findings
Methodology	Experimental/ manipulative; verification of hypothesis; chiefly quantitative methods	Modified experimental/ manipulative; critical multiplism; falsification of hypothesis; may include qualitative methods	Dialogic/ dialectical	Hermeneutical/ dialectical

Source: Guba and Lincoln (1994, p. 109).

The research paradigms can be viewed as falling along a continuum ranging from precise design principles at one end, to evolving less structured directives at the other (Denzin & Lincoln, 2011). The first paradigm to be explored is that of positivism. Positivism is a philosophical position that has generally rejected qualitative research as a scientific method (Kvale, 1996). Positivism assumes that research measures independent facts about a particular apprehensible reality and is therefore generally used in quantitative studies involving hypothesis testing (Guba & Lincoln, 1994). Quantitative methodologies are most commonly used in positivism-framed studies and for this reason adopting a positivist approach was deemed unsuitable for exploring the phenomenon of the Internet’s impact on IE. To elicit information on the firm-level resources and Internet capabilities, a mixed method research design was deemed appropriate to ensure the richness of data extracted from key informants.

The postpositivism research paradigm, which is the paradigmatic approach adopted in this research, is a rejection or modification of numerous core beliefs of positivism

(Onwuegbuzie, Johnson & Collins, 2009). The postpositivism paradigm relies on multiple methods as a way of capturing as much of reality as possible, while emphasising the discovery and verification of theories (Denzin & Lincoln, 2011). Based on this view, the postpositivism paradigm extends beyond relativism, but retains the idea of objective truth (Denzin & Lincoln, 1994). The postpositivism paradigm is based on the reality that human knowledge is not based upon unchangeable foundations but rather conjectures, which can change over time (Denzin & Lincoln, 2011).

Scholars within the postpositivism paradigm believe that there is an independent reality that can be studied, but they also assert that theory can be imperfect and, therefore can be modified (Onwuegbuzie et al., 2009). Postpositivism researchers also assert that, as a result of their experiences and worldviews, people are partially biased in their objective perceptions of reality (Denzin & Lincoln, 1994; Onwuegbuzie et al., 2009). For example, this research draws on the perceptions of international entrepreneurs about the role of the Internet in a firm's internationalisation. Although researchers within the postpositivism paradigm utilise quantitative research methods, they also employ qualitative methods to assist the researcher in developing quantitative instruments (Onwuegbuzie et al., 2009).

Critical theory has been seen as an antipositivist movement in the social sciences (Denzin & Lincoln, 1994). Critical theorists oppose logical positivist, relativist, and anti-foundational epistemologies (Denzin & Lincoln, 2011). Critical theory involves a historical realism which sees reality as shaped by social, economic, political, cultural and ethnic factors that have been reified into a series of structures that are now taken as 'real' (Guba & Lincoln, 1994). The critical theory approach is not well suited for the purpose of this research as although it employs mixed-method approaches, assumptions are subjective to the researcher and are grounded in a value-dependent social and historical understanding (Guba & Lincoln, 1994).

Constructivism aims to understand the complex world of lived experience from the view of those who live it (Guba & Lincoln, 1994). Denzin and Lincoln (2011) suggest that constructivism realities are apprehendable as multiple, elusive psychological constructions that are socially and experimentally based. The constructivism paradigm is utilised most commonly by researchers engaging in qualitative data collection, where the

researcher seeks to understand the social world as perceived by others (Malhotra et al., 2006). This approach requires interpretivist researchers to focus on the intrinsic details of individual cases under investigation (Malhotra et al., 2006). The constructivism paradigm was regarded as being unsuitable for this study because it suggests that the realities are apprehendable in the form of multiple, intangible mental constructions that are socially and experimentally based (Denzin & Lincoln, 2011).

3.3 Level of analysis

The objective of this research study was to investigate and explore the firm-level resources and Internet capabilities that are expected to be related to the firm's international market performance. For the purpose of the research, international entrepreneurs from Australian SMEs were selected, from which eight cases were constructed based on in-depth interviews with owner/founders. This research adopted the level of analysis used by Loane (2006) who conducted interviews with key decision-makers in SMEs, which in most cases was a member of the founding team, for a firm-level analysis of the role of the Internet in the internationalisation of SMEs. Research papers in international business have argued that the international entrepreneur can be seen as the single representative of the firm in relation to internal decision-making processes (Jantunen et al., 2005; Loane, 2006; Mostafa et al., 2006). As such, interviews were conducted at the individual level with international entrepreneurs.

3.4 Unit of data collection

The unit of data collection in this study is the individual international entrepreneur. Although data was collected by use of interviews conducted with international entrepreneurs, case study questions were relevant to both the international entrepreneur, and the firm as a collective. It was deemed appropriate to investigate firm-level resources and Internet capabilities at an individual level first, rather than at a collective level, as decision-making power within SMEs is generally concentrated in the hands of one or a very few people (Reid, 1981). This is because owner/founders are generally the principal force behind the initiation, development, sustenance and success of SME internationalisation (Chetty & Hamilton, 1993; Hutchinson et al., 2006). Research also

states that the decision of a firm to pursue international markets is dependent not only on the availability of technology, but also the international orientation of management (Loane et al., 2004). More recent research, for example, highlights a shift in the IE literature through the application of capability perspectives, such as the understanding of the firm-level resources and capabilities, which may lead to an increased understanding of how many SMEs are recognising and exploiting new international market opportunities (Mostafa et al., 2006; Zahra et al., 2005). As such, it is important to reiterate that the findings in this research are relevant for both the individual international entrepreneur and the firm as a collective.

3.5 Study One: Multiple case study methodology

The primary method for data collection in Study One was the multiple case study methodology. The most frequently encountered definition of case study methodology considers:

A case study is an empirical inquiry that;

- i. investigates a contemporary phenomenon in depth and within its real-life context, especially when,*
 - ii. the boundaries between phenomenon and context are not clearly evident. Case studies can include, and even be limited to quantitative evidence, however are primarily qualitative in nature.*
- (Yin, 2009, p. 18)*

The purpose of Study One was to identify the firm-level resources and Internet capabilities expected to influence the international market performance of the firm. Research has suggested that multiple case study inquiry is an all-encompassing logical research method with a unique strength of dealing with a full variety of evidence, such as documents, artefacts, observations and interviews (Yin, 1981; Eisenhardt, 1989). The use of various sources of evidence, such as interview transcripts, print media and web documents, allowed the investigator to address a broader range of behavioural issues aimed at corroborating the same fact or phenomenon (Patton, 1990). Case study

methodology has evolved into a well-accepted and widely utilised research method in the marketing and international business fields, particularly in the areas of Internet international marketing. For example, researchers have recently used case study methodology to analyse the Internet's impact on firm internationalisation (Loane, 2006; Mathews & Healy, 2007, 2008). Mathews and Healy (2007), for example, used case analysis to explore the influence of the Internet on international market penetration and development from the strategic perspective of the firm.

Case study research can include either a single embedded case or multiple case studies (Yin, 1981). This research utilised multiple case studies to aid in providing a holistic perspective on the identified research problem and to assist in exploring and defining the IE constructs. It has been suggested that multiple case studies allow for greater understanding in the IE domain (Zahra & Dess, 2001; Wright & Dana, 2003; Nummela & Welch, 2006; Hohenthal, Eriksson & Lindbergh, 2006) and more specifically for the investigation of the Internet's impact on the international entrepreneurial firm-level resources and Internet capabilities for international market performance. To this extent, case study methodology was deemed appropriate for answering the 'how' and 'why' questions being proposed in this thesis (Yin, 2009). As opposed to a single case with an individual firm, the objective of this study is to assist in building a better understanding of theory through multiple case studies to guide data collection and analysis.

Case studies can be distinguished from other research methods. For instance, an experiment deliberately takes away from the full complexity of a phenomenon, attending to a limited number of variables in a controlled environment (Yin, 2009). A history deals with the inter-relationships between the phenomenon and the research context, but usually deals with non-contemporary events (Eisenhardt & Graebner, 2007). A questionnaire, by comparison, attempts to deal with a phenomenon and context, although the ability to investigate context is limited (Mason, 2006; Yin, 2009). In this research, it is necessary to firstly explore the phenomenon of the Internet's impact on IE before identified concepts can be verified through a quantitative questionnaire.

Although case studies are a distinctive form of empirical inquiry, researchers have continued to highlight the drawbacks of the methodology. Firstly, the greatest concern for

scholars has been over the lack of rigour in case study methodology (Yin, 2009). This is primarily due to researchers' inability to conduct valid and rigorous cases that follow systematic procedures and are free from biased views influencing the direction of the research, or its findings (Eisenhardt & Graebner, 2007; Yin, 2009). However, bias can also enter into other research methods, for example, experiments or in designing questionnaires. In this research, academic and peer-reviewed case study research publications were utilised to ensure the case design was rigorous and free from critical errors. Secondly, a common concern among research investigators is that case studies provide little basis for scientific generalisation (Mason, 2006; Marshall & Rossman, 2006; Yin, 2009). This argument commonly relates to those case studies which rely solely on a single embedded case. However, this research is based on the use of multiple case studies.

3.5.1 Selection strategy

The sample in Study One of the research study was recruited through the use of a purposive sampling strategy in which the researcher selects participants who can 'purposefully inform an understanding of the research problem and central phenomenon in the study' (Creswell, 2003, p. 125). The power of purposive sampling lies in selecting information-rich cases for in-depth analysis related to the phenomenon under investigation (Patton, 1990). This statement implies that the choice of data sources is driven predominately by the conceptual questions, not through a concern about the representiveness of the data (Miles & Huberman, 1984). Purposive sampling is generally intended to facilitate a process whereby the research generates and tests a theory based on the analysis of the research data through inductive reasoning (Mason, 2002).

A purposive sampling strategy can be justified given the aim of Study One to investigate the relatively unexplained phenomenon of the unique firm-level resources and Internet capabilities influencing the firm's international market performance. Briefly, to limit desirability bias and ensure that international entrepreneurs were being interviewed in terms of their job description, each participant had to meet two considerations. Firstly, the international entrepreneur must be the owner and founder of the SME. That is, questions regarding the international entrepreneur's role within the firm were also asked.

Secondly, international entrepreneurs had to fulfil a screening process used to evaluate only international entrepreneurial individuals demonstrating innovative, proactive and risk-taking behaviours (Mostafa et al., 2006; Wang, 2008). This screening process identified the international entrepreneurs from non-international entrepreneurs.

3.5.2 Data sources

In terms of the number of the cases for analysis, Perry (1998b) argues that there are no precise guides to the number of cases that should be included. The literature also rarely specifies how many cases should be developed. Eisenhardt (1989) recommends that cases should be added until theoretical saturation is reached. Although there is no specified number of cases that should be in a case study inquiry (Patton, 1990), a number of authors advocate that there should be no less than four cases in any given case study research design (Perry, 1998b; Eisenhardt, 2002). Selection of fewer than four cases can lead to issues for the researcher in trying to generate credibility in the development of theory (Perry, 1998b). Given these recommendations, the use of 12 cases across the Australian goods and services sectors was considered appropriate. The careful selection of cases within the goods and service sectors ensured the research met the criterion of literal replication; predicting similar results within industries was ensured, and, contrasting results across industries for robustness to satisfy validity through theoretical replication (Yin, 2009). Multiple cases also assist in generating analytic generalisability (Yin, 1994, 2009). The multiple case study design of Study One is illustrated in Figure 3.3.

Table 3.3 Types of design in case study inquiry

	Single-case designs	Multiple-case designs
Holistic (single unit of analysis)	Type 1	Type 3
Embedded (multiple units of analysis)	Type 2	Type 4

Source: Yin (1994, p 39).

Central to the purposive sampling strategy, this research maintains a cross-sectorial focus including sources from the Australian goods and services sectors. The Australian economy is dominated by its service sector, representing 68% of Australian GDP (Austrade, 2011) and rising to a record worth of \$A53.3 billion in 2008-09 (Austrade, 2011). Service-oriented firms account for more than three-quarters of the economy's output and four out of every five jobs in Australia (Austrade, 2011).

Service-oriented firms were sourced from the professional business services, tourism and information communication technology services. This is because the latter three trade service commodities rank in Australia's top 25 export service firms (Austrade, 2011). For example, professional business service firms were worth \$A3.2 billion in real gross revenue in 2011 (ABS, 2012). The tourism industry in Australia is also an important factor contributor to the economic wellbeing of the country (Standing & Vasudavan, 2000). Tourism is one of Australia's largest exporter of services. In 2010-2011, tourism contributed \$A23.7 billion to Australia's export earnings, or 8% of total export earnings for all goods and services (Department of Resources, Energy and Tourism, 2012). Tourism's total contribution to Australia's GDP in 2010-2011 was \$A73.3 billion, or 5.2% Australia's total economy. In addition, the industry employed 907,100 people, representing 7.9% of Australia's total employment. Along with education, tourism is Australia's leading services exporter (Department of Resources, Energy and Tourism, 2012).

Consumer goods firms trading in manufacturing of textiles, food products and jewellery were also selected for this research. These goods and services industries have been selected for this research as they represent five out of the top nine Australian export industries. The total value of goods and services exported from Australia in 2009-10 was US\$217 billion in 2009-10 (Austrade, 2011). A total of six SMEs were included in the sample from the Australian export goods sector. The sample also consisted of an additional six SMEs from the Australian export services sector.

3.5.3 Sampling procedure and data collection

The primary method of data collection in Study One was structured in-depth interviews. Interviews are often the most important part of acquiring case study information and are critical to the overall success of the research design (Mason, 2006; Malhotra, 2008). The structured in-depth interviews took place in a single setting, lasting on average 90-minutes to two-hours. The interviewer asked the international entrepreneurs questions relating to their international innovativeness, proactiveness and risk-seeking propensities. Further questions relating to technology-related international vision and international business experience, Internet, international marketing capabilities, and international network capabilities were also discussed. Essentially, the structured in-depth interview process involved two considerations: (i) to follow the line of inquiry as reflected in the case study protocol, and (ii) to ask the participant conversational questions in an unbiased manner, which serves the needs of the line of inquiry posed in this thesis (Mason, 2006; Marshall & Rossman, 2006; Malhotra, 2008; Yin, 2009).

The interviews with international entrepreneurs were also recorded with an audiotape device to ensure a more accurate record of the interview rather than that provided by observer notes alone. Both observer notes and recordings of the in-depth interviews allowed for accurate recall of data. An Internet search to locate secondary data relevant to the focal firm was also conducted. Documents that were of use to the case studies included articles appearing in mass print media, industry publications and brochures, email correspondence and website data. The abundance of material on the Internet meant the interviewer had to use personal judgement while maintaining a strong sense of the case study inquiry, acquiring only the most pertinent information relevant to the research questions.

To improve the reliability of organising and documenting data, a case study database was also established. This practice allows other investigators to review the evidence and draw independent conclusions directly, rather than being limited to written case study reports (Marshall & Rossman, 2006). Case study notes formed the basis of the case study database and were stored in a manner that allowed other investigators to retrieve notes efficiently. Although the process of transferring case study information into a database

requires excessive amounts of time in re-writing and making editorial changes to notes, the process is essential in establishing readily retrievable documents for later perusal (Yin, 2009). Through the development of a case study database, the principle of maintaining a chain of evidence to increase the reliability of information is evident (Yin, 1994). In summary, this research has maintained credibility by satisfying the three key principles of data collection identified by Yin (2009): (i) the use of multiple sources of evidence, (ii) establishment of a case study database, and (iii) maintaining a chain of evidence.

3.5.4 Interview protocol

The interview protocol utilised in this research assisted the researcher by focusing the discussion with the respondent to issues pertaining to the research area (Perry, 1998b). The questions included in the interview protocol are of particular importance to the creditability of the research. The interview protocol utilised in Study One can be found in Appendix 1, and is evaluated in this section of the thesis. It is important to highlight that each of the open-ended questions in the interview protocol was derived from a literature review and focused on exploring key research theories, such as IE and the RBV and the capability view of the firm. The open-ended questions also allowed for unpredicted or unexpected responses (Yin, 2009). Further, it has been argued that an interview protocol allows for increased reliability and creditability in data collection (Perry, 1998b; Malhotra, 2008). The interview protocol for this research is outlined below.

Part A of the interview protocol was the introduction to thank participants for their contributions to this research. This section of the interview protocol was used to briefly describe to participants why they were selected as appropriate informants for the research. Part B describes the research aim and the expected outcomes of the research study. This section of the interview protocol gives participants important information pertaining to the research. Part C was used to explain the process of the interview, including information relevant to the ethical issues and the research institution in which the research is being conducted. The purpose of Part D of the interview protocol was to obtain general business information and participant details. These questions at the start of the interview invited participants to describe their business and give general background information on

their firm. Part E used probing questions to draw on the prior experiences and knowledge of the international entrepreneur in order to explore their international entrepreneurial orientation. Questions in this section were developed to capture the international entrepreneur’s level of innovativeness, proactiveness and risk-taking propensity in international business decision making.

Probing questions in Part F were used to explore the technology-related international vision of the international entrepreneur. Part G used probing questions related to the international business experience of entrepreneurs, including the previous industries they have worked in. Part H seeks to explore the Internet, international marketing capabilities of firms and the extent to which Internet integration is embedded within the business. Part I used probing questions to explore the international networks of international entrepreneurs. Part J used probing questions to evaluate the international market performance of the firm, including all export markets in which they were operating. These protocol questions and corresponding questions in the interview protocol are illustrated in Table 3.4.

Table 3.4 Corresponding research questions relevant to the interview protocol

Research questions	Protocol section	Corresponding question	Research focus
<i>Questions: 1- 5 (PART D) are opening questions & Questions: 32- 33 (PART K) are closing questions</i>			
<i>RQ 1: What are the firm-level resources and Internet, international marketing capabilities of firms, and how do they influence international performance?</i>	PART E:	Qs: 6, 7, 8, 9	International entrepreneurial orientation as a firm-level resource
	PART F:	Qs: 10, 11, 12, 13	Technology-related international vision as a firm-level resource
	PART G:	Qs 14, 15, 16, 17, 18, 19	Experiential international business experience as a firm-level resource
	PART H:	Qs: 20, 21, 22	Internet, international marketing capabilities
	PART I:	Qs: 23, 24, 25, 26	International virtual network capabilities
	PART J	Qs: 27, 28, 29, 30, 31	International market outcomes and performance of the firm

3.5.5 Data analysis procedures

Data analysis ‘is a matter of giving meaning to first impressions as well as final compilations’ (Stake, 1995, p. 71), and involves examining, categorising, tabulating, or otherwise recombining evidence to elicit empirically based conclusions (Yin, 2009).

According to Yin (1994), acquiring case study evidence is one of the least developed and most difficult aspects of conducting case studies. This is because investigators commonly embark upon the case study methodology without firstly determining how the evidence will be analysed (Marshall & Rossman, 2006). To avoid the common mistakes which can stall data analysis in the analytic stage of the research design, the investigator became well versed with all aspects of case study analysis procedures prior to coding the data. The data analysis of cases included both within-case and cross-case analysis procedures (Yin, 1994). By analysing the data at two points the researcher was able to examine and extrapolate information key to solving the research problem.

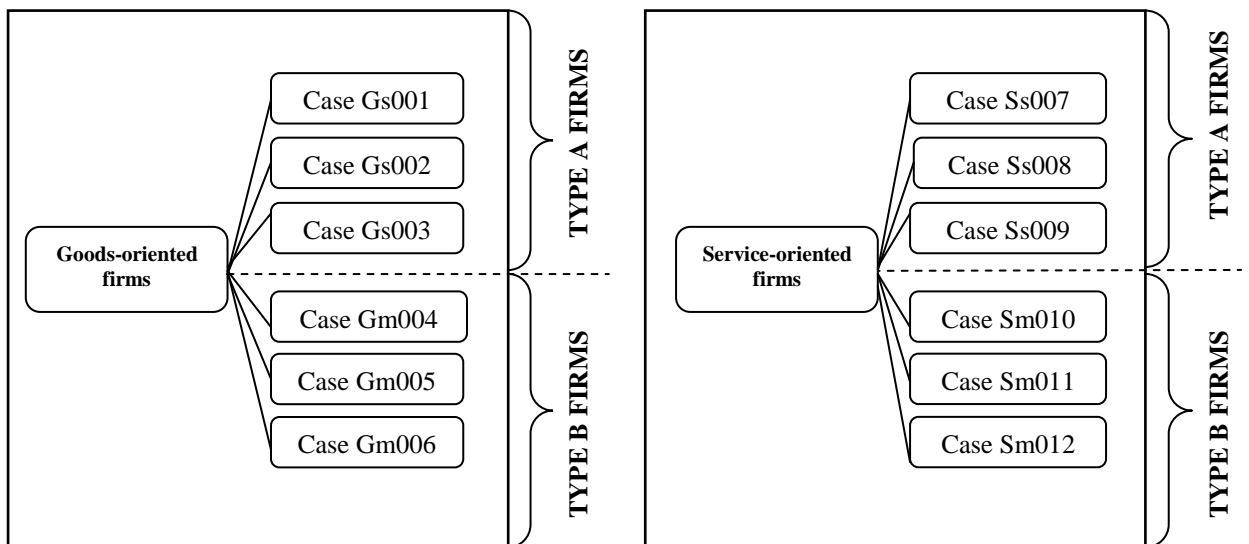
Within-case and cross-case analysis

The purpose of within-case analysis was to become familiar with each individual case through detailed examination of case study data (Perry, 1998b). The process of conducting a within-case analysis allowed the researcher to become familiar with each individual case through a descriptive and comprehensive case write-up (Perry, 1998b; Eisenhardt, 2002). As such, the multiple cases in this research were viewed individually before cross case-analysis took place. Cross-case analysis or pattern matching is a logic comparing empirically based patterns with predicted ones (Yin, 2009). It is suggested that where the patterns coincide, the results will assist in strengthening the study's internal validity (Patton, 1990). A cross-case analysis was conducted after the within-case analysis, forcing the investigator to look beyond initial assumptions and consider all rival explanations.

The data analysis of cases included both within-case and cross-case analysis (Yin, 1992). As previously mentioned, this study incorporates both *literal replications* (predictions of similar results) and *theoretical replications* (predicting contrasting results for predicted reasons) (Yin, 1992; Mason, 2006). For example, predicted similar results, as shown in Figure 3.2, are expected in cases Gs001 through to Gs003: goods-oriented small-sized firms; cases Gm004 through to Gm006: goods-oriented medium-sized firms; cases Ss007 through to Ss009: service-oriented small-sized firms, and cases Sm010 through to Sm012: service-oriented medium-sized firms.

Predicted contrasting results, as seen in Figure 3.2, are expected between the goods and services industries and between small- and medium-sized firms. These case replications aid in providing analytical generalisability and offer strong support for theory development. The analytic strategy for data analysis in this study relied on the research questions for guidance. This process ensured that all evidence was treated fairly (Yin, 2009), meaning that compelling analytic conclusions were established. As the research questions have shaped the data collection plan, data analysis will be conducted through the examination of case inquiry data and the research question. That is, the research questions will assist in organising the case study and defining explanations to be examined. A detailed discussion of the coding process, including the identification of data-driven and theory-driven codes will be discussed in the next section.

Figure 3.2 Representation of expected literal and theoretical replications



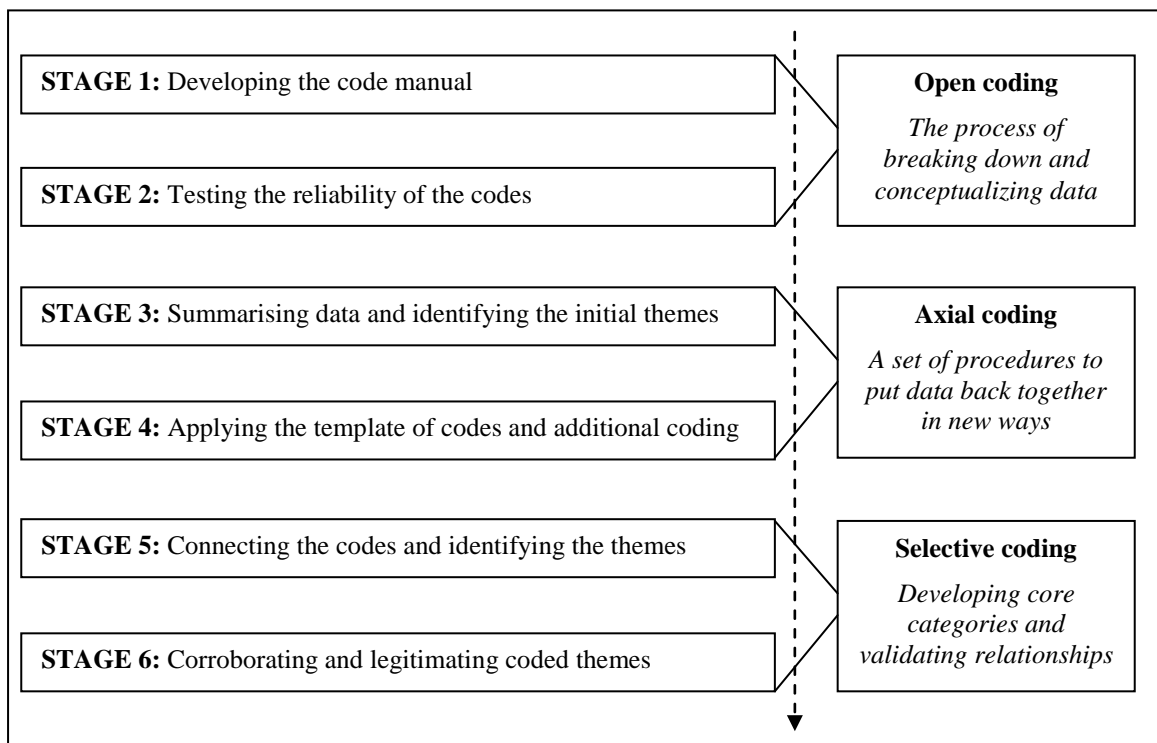
*Note. Homogenous firms within industries – Expected **literal replications**. Heterogeneity between industries and firms – Expected **theoretical replications**. G= Goods-oriented firm, S= Service-orientated firm, s= Small sized firm < 100 employees: **TYPE A FIRMS**, m= Medium sized firm > 100 employees: **TYPE B FIRMS**.*

3.5.6 Coding procedures

Data analysis involves what is commonly termed coding, that is, taking raw data and raising it to a conceptual level (Strauss & Corbin, 2008). This involves reviewing and synthesising transcribed documents to differentiate between parts, making reflections

about the inter-relationships within the information (Miles & Huberman, 1984). The coding process is further characterised by the operations through which data are broken down, conceptualised, and put back together in new ways (Strauss & Corbin, 1990). Consistent with key authors in the IE domain, this research draws on the coding procedures conceptualised by Fereday and Muir-Cochrane (2008) and Strauss and Corbin (1990). The method of analysis chosen for this research was a hybrid approach of qualitative methods, incorporating both the deductive a priori template of codes approach as outlined by Miller and Crabtree (1999), and the data-driven inductive approach of Boyatzis (1998). This approach was appropriate in allowing the beliefs of social phenomenology to be integral to the process of deductive analysis while allowing for themes to emerge from the data using inductive coding (Fereday & Muir-Cochrane 2008). Figure 3.3 offers a diagrammatic representation of the stages undertaken to code the case study inquiry data.

Figure 3.3 Diagrammatic representation of the stages undertaken to code case study inquiry data



Source: Fereday and Muir-Cochrane (2008) further adapted from Boyatzis (1998) and Miller and Crabtree (1999). Open, Axial and Selective coding sourced from Strauss and Corbin (1990).

Development of the code manual

The establishment of a code manual for this research was imperative, because it served as a data management tool for systematising groups of similar or related text assisting in the interpretation of the data (Miller & Crabtree, 1999). For this research, the template of codes was developed *a priori*, based on the theoretical research questions (Fereday & Muir-Cochrane, 2008), as shown in Table 3.5. The proposed conceptual model discussed in Chapter Two of this thesis identified six constructs that informed the development of the code manual: international entrepreneurial orientation, technology-related international vision, international business experience, Internet, international marketing capabilities, international network capabilities and international market performance. It is also important to highlight that while the establishment of the code manual initially commenced with these six categories, each theme was then broken down into numerous codes. In this research the codes were written with reference to Boyatzis (1998) and identified by the code label, the definition concerning the code, and a description of how to identify the theme. The *a priori* code manual is presented in Table 3.5.

Table 3.5 The *a priori* code manual

Code 01	
Core Theme: International entrepreneurial orientation	
Label	International innovativeness
Definition	International innovativeness refers to a firm's tendency to enter into experimentation, support new international ideas and depart from established practices (Lumpkin & Dess, 1996; Miller, 1983; Wiklund & Shepherd, 2005).
Description	The development or enhancement of products and services, such as new administrative techniques and/or technologies for improving the international organisational operations of the firm (Knight, 2001).
Code 02	
Core Theme: International entrepreneurial orientation	
Label	International proactiveness
Definition	International proactiveness relates to aggressive positioning relative to competitors with an emphasis on the execution and ongoing tasks in pursuit of the firm's international market objectives (Knight, 2001).
Description	The international entrepreneur's ability to anticipate future needs of the firm and gain a competitive advantage by pursuing new international market prospects.
Code 03	
Core Theme: International entrepreneurial orientation	
Label	International risk-seeking propensity
Definition	International risk-seeking propensity denotes the willingness of the international entrepreneur to make investments and commit resources to projects that have uncertain outcomes or unusually high profits and/or losses (Lumpkin & Dess, 1996; Lee et al., 2001; Wiklund & Shepherd, 2005).
Description	The international entrepreneur's ability to commit financial and human resources to

	support new risky international projects. This can also include borrowing heavily and venturing into the relatively unknown (Lumpkin & Dess, 1996).
Code 04	
Core Theme: Technology-related international vision	
Label	International vision (<i>Also referred to in text as international motivation and mission</i>)
Definition	An international or global vision of founders consistently seeks to procure the best resources, including human and financial, to support the overseas operations of the firm (Johnson, 2004; Loane, 2006). These international entrepreneurs envision international opportunities and capitalise on them by taking advantage of new international market opportunities through Internet platforms.
Description	International entrepreneurs with a strong international vision will emphasise the importance of exporting with employees as well as emphasising the development of export-related resources (Aspelund & Moen, 2004). International entrepreneurs also regard the world as their market.
Code 05	
Core Theme: International business experience	
Label	International business experience
Definition	The international business experience of the international entrepreneur refers to the exposure of the manager to international markets, business experience and firm internationalisation behaviours (Reuber & Fischer, 1997).
Description	Any business experience that is internationally related. That is, any prior international business experience working in the current firm or related and supporting industries or firms.
Code 06	
Core theme: International business experience	
Label	Qualifications (<i>Also referred to in text as diplomas, degrees and certificates</i>)
Definition	Qualifications are those attributes that are possessed by a person that indicate the individual is qualified to complete the task at hand.
Description	Qualifications refer to any formal qualifications the international entrepreneur has attained prior to establishment of the firm. Formal qualifications must be completed at the time of the interview for the qualification to be classified complete.
Code 07	
Core theme: International business experience	
Label	Internet experience
Definition	Internet experience refers to any prior experience the international entrepreneur has with the use of technology such as the Internet in a business environment.
Description	Prior experience with Internet applications can include, but is not limited to: developing and/or maintaining the firm's official website, using the Internet for international market management, market research, contacting overseas customers and suppliers, identifying overseas competitors, markets and potential business partners, exchange of operational data with suppliers and/or customers, online purchasing, after sales support, recruiting personnel, or dealing with international public authorities.
Code 08	
Core Theme: Internet, international marketing capabilities	
Label	Internet integration
Definition	Internet integration refers to the extent to which Internet technologies are embedded in the international business operations within the firm.
Description	Internet integration can include any of the following items, but is not limited to: developing and/or maintaining the firm's official website, using the Internet for international market management, market research, contacting overseas customers and suppliers, identifying overseas competitors, markets and potential business partners, exchange of operational data with suppliers and/or customers, online purchasing, after sales support, recruiting personnel, or dealing with international public authorities.
Code 09	
Core theme: International network capabilities	
Label	International networks (<i>Also referred to in text as business relationships, ties</i>)

Definition	International business networks are the business relationships a firm secures, generally consisting of a collection of close-knit secure business groups, where the focal organisation is embedded (Elfring & Hulsink, 2003; Loane, 2006).
Description	International business networks refer to the international entrepreneur's formal business-related relations with banks, trade partners, direct competitors, suppliers and distributors, Government agencies and authorities.
Code 10	
Core theme: International market performance	
Label	International performance (Also referred to in text as <i>growth, international success and exporting profitability</i>)
Definition	Performance is a firm's reason for existence (Knight, 2001). In the absence of sustainable, satisfactory performance outcomes, the firm will not survive; hence, performance is the most important dimension of its overall operations (Knight, 2001).
Description	The financial and non-financial indicators to measure the international success of the firm. These indicators can include, but are not limited to: the total proportion of sales as international revenue and profit, export sales growth, export profitability, the number of years to firm has been exporting, the number of markets the firm is currently vested in and the number of international investments.

All of the interview transcripts were analysed separately and summarised according to the six identified themes. The transcripts were then summarised separately by outlining the key points made by participants in response to questions asked by the interviewer. These questions formed the framework of the interviews. The interview protocol included such questions as:

- Do you use the Internet to attract customers in overseas markets? If so, what types of technologies do you use?
- Are you likely to make investments in new international projects that are risky? If so, will the use of the Internet play a role?
- Do you intend to target any country markets within the next two years? Which markets and why?
- Do you aspire to increase the number of your current international customer database? If so, will the Internet play a role in increasing the number of international customers?
- Do you have previous international business experience? If so, can you tell me about your previous experience?
- Does your firm place a strong emphasis on technological leadership? If so, why is this important?
- Has the Internet impacted on the development and maintenance of your international network relationships? If so, can you please explain why?
- Can you please tell me the number of countries/ markets your firm currently exports to?

The coding process also consisted of five key stages: (i) the reliability of the codes, (ii) summarising data and identifying the initial themes, (iii) applying the template of codes and additional coding, (iv) connecting the codes and identifying the themes, and (v) corroborating and legitimating coded themes. These key coding stages will be discussed next.

(i) The reliability of the codes

Determining the applicability of the code to the raw information is a necessary step in the data analysis process (Boyatzis, 1998). Three interview transcripts and web documents from the Australian goods and services sector were selected as pre-test pieces (Fereday & Muir-Cochrane, 2008). Drawing from the coding process of the documents using *a priori* codes, the researcher invited three selected co-researchers to code the transcripts and documents. The results were compared and contrasted and minimal adjustments to the *a priori* code template were required (Fereday & Muir-Cochrane, 2008).

(ii) Summarising data and identifying the initial themes

The process of summarising and identifying initial themes occurred through listening to, and reading of the raw data. This process was adopted for each interview transcript and for related and supporting evidence, such as web documents and print media. In essence, this open coding technique began by analysing the first interview transcript with a line-by-line analysis (Strauss & Corbin, 1990). This process involved the close examination of the text, mainly phrase by phrase but sometimes by single words. The next phase included coding sentences and paragraphs (Strauss & Corbin, 1990). The researcher was essentially looking for the major idea brought about in each sentence or paragraph. Each core idea, for example technology-related international vision, was given a name, and then a more detailed analysis on that concept was conducted. In some cases each core idea or theme consisted of several codes relating to the one label. For example, 'international market performance' (*core theme*), consisted of multiple codes stemming from the core theme: for example, 'international performance' (*code*), 'international growth' (*code*), and 'international exporting' (*code*). The initial names for concepts were written on the interview transcripts and web documents.

(iii) Applying the template of codes and additional coding

The purpose of applying a template of codes to the text was to identify meaningful units of text. Using the template analytic technique (Miller & Crabtree, 1999), the codes from the code manual were applied to the interview transcripts and firm documents. Analysis

of the codes at this stage was guided, but not confined to the preliminary codes (Fereday & Muir-Cochrane, 2008). During the coding process additional inductive codes were found describing new themes emerging from the text.

(iv) Connecting the codes and identifying the themes

The process of connecting the codes is primarily concerned with discovering themes and patterns in the data (Miller & Crabtree, 1999). At this stage of the coding process, similarities and differences among case study interviews emerged. The process of connecting the codes and identifying themes across the data clustered under headings that directly relate to the research questions (Fereday & Muir-Cochrane, 2008).

(v) Corroborating and legitimating coded themes

The final stage in the coding process is corroborating and legitimating coded themes (Fereday & Muir-Cochrane, 2008). Corroborating is a term used to describe the process of confirming the findings (Miller & Crabtree, 1999). Before the researcher embarked on the final coding process, the previous coding stages were scrutinised to ensure that the clustered themes and codes were representative of the initial data analysis and *a priori* codes (Fereday & Muir-Cochrane, 2008). In this study it is important to highlight that the interaction of text, codes and themes involved several iterations before the analysis proceeded to an interpretive phase, in which the units were connected into an explanatory framework. The themes were then further clustered and assigned to succinct phrases to describe the meaning that underpinned the theme.

3.6 Criteria for evaluating the quality of case studies

Yin's (1994, 2009) criteria for judging qualitative research design and the quality of case study research include four tests: construct validity, internal validity, external validity and reliability. Each of these criteria are discussed below.

3.6.1 Construct validity

Construct validity is the first and most challenging aspect of case study design (Yin, 2009). This is because researchers often fail to develop sufficiently an operational set of measures framing the research design. As previously mentioned, maintaining a chain of evidence, the use of multiple sources, and the establishment of a case study database (Marshall & Rossman, 2006; Yin, 2009) increase the reliability of information presented. These techniques are also necessary in allowing external observers to follow the deviation of any evidence from the initial research questions to the final case study conclusions.

3.6.2 Internal validity

The second criterion for evaluating research quality is internal validity (Eisenhardt, 2002; Yin, 2009). Internal validity is mainly a concern in explanatory case studies, where the researcher attempts to verify that true and correct relationships have been established (Yin, 1994). If the investigator incorrectly assumes a causal relationship that is false or untrue, the research design has failed to deal with some threat to internal validity, and therefore the constructed theory will be flawed (Yin, 1994). Because this research is exploratory in nature, casual statements are not developed, and therefore internal validity is not an immediate issue. Instead, this research is concerned with developing theory from multiple research fields, including IE and the RBV of the firm to elicit knowledge and understanding of subjective meanings and interpretations of social phenomena (Marshall & Rossman, 2006).

3.6.3 External validity

The third test of quality in Study One is external validity, which deals with the issue of generalisability and whether the findings of the case study are applicable beyond the immediate case to the external environment (Yin, 2009). Various authors (Yin, 1994; Mason, 2006; Marshall & Rossman, 2006) have argued that typically single cases offer a poor basis of generalising, whereas multiple case studies include tactics of replication logic, thus strengthening the design and conclusions drawn. Unlike questionnaire research, multiple case study methodology relies on analytic generalisation where the

investigator strives to generalise the findings of the case study to some border theory (Mason, 2006); in this thesis the boarder theory is IE in an Internet context. Generalisability in case study methodology is achieved through replication logic. As previously mentioned, this study incorporates both *literal replications* (predictions of similar results) and *theoretical replications* (predicting contrasting results for predicted reasons) (Yin, 1994; Mason, 2006). That is, all cases within industries will be homogenous and cases across industries will be heterogeneous. These case replications aid in providing analytical generalisability and strong support for theory development.

3.6.4 Reliability

The final measure of quality in social research is the study's reliability (Yin, 1994). The reliability of the research is measured by the dependability of the findings (Gummesson, 2000). That is, all questions from the interview protocol are used to focus the study around the research questions (Gummesson, 2000). The process of ensuring reliability in the research design therefore means that in similar circumstances, the same results and conclusions would be drawn by another researcher. It has also been suggested that a point of data redundancy is required to draw out all pertinent issues from research participants (Gummesson, 2004). That is, redundant constructs are identified at the point of redundancy, that is, the point at which more cases would yield little or no better understanding (Gummesson, 2004). This research addresses the issue of reliability by establishing an interview protocol for the in-depth interviews and by developing a case study database as described previously.

3.7 Ethical considerations

Prior to the research being conducted an application was lodged with the Queensland University of Technology Human Research Ethics Committee for low-risk research involving human participants. The research being undertaken was in accordance with the Australian Government's *National Statement on Ethical Conduct in Human Research* and the human research ethics requirements of Queensland University of Technology. The following discussion identifies the ethical issues raised prior to the research investigation.

- i. *Codes and consent:* Participants involved in this research were asked at the commencement of the interviews to sign research consent forms. By signing the consent forms, participants indicated that they had read and understood the information document regarding this study, agreed to participate, and understood that their confidentiality would be maintained and no identifying information released. Further, participants understood that they were free to withdraw from the interview at any time, without comment or penalty.

- ii. *Confidentiality and anonymity of participants:* By signing the consent forms prior to the initiation of the study, participants' rights were protected. All comments and responses made within the interview were anonymous and treated with confidentiality. The names of the participants were not required in any of the responses, meaning the participant remained anonymous for the entire period of the interview, and information contained within these recordings was kept confidential. The audio recordings from the interviews were also not used for any purpose other than the study itself. Also, this research did not involve the gathering of personal or sensitive information about or from individuals.

3.8 Conclusion

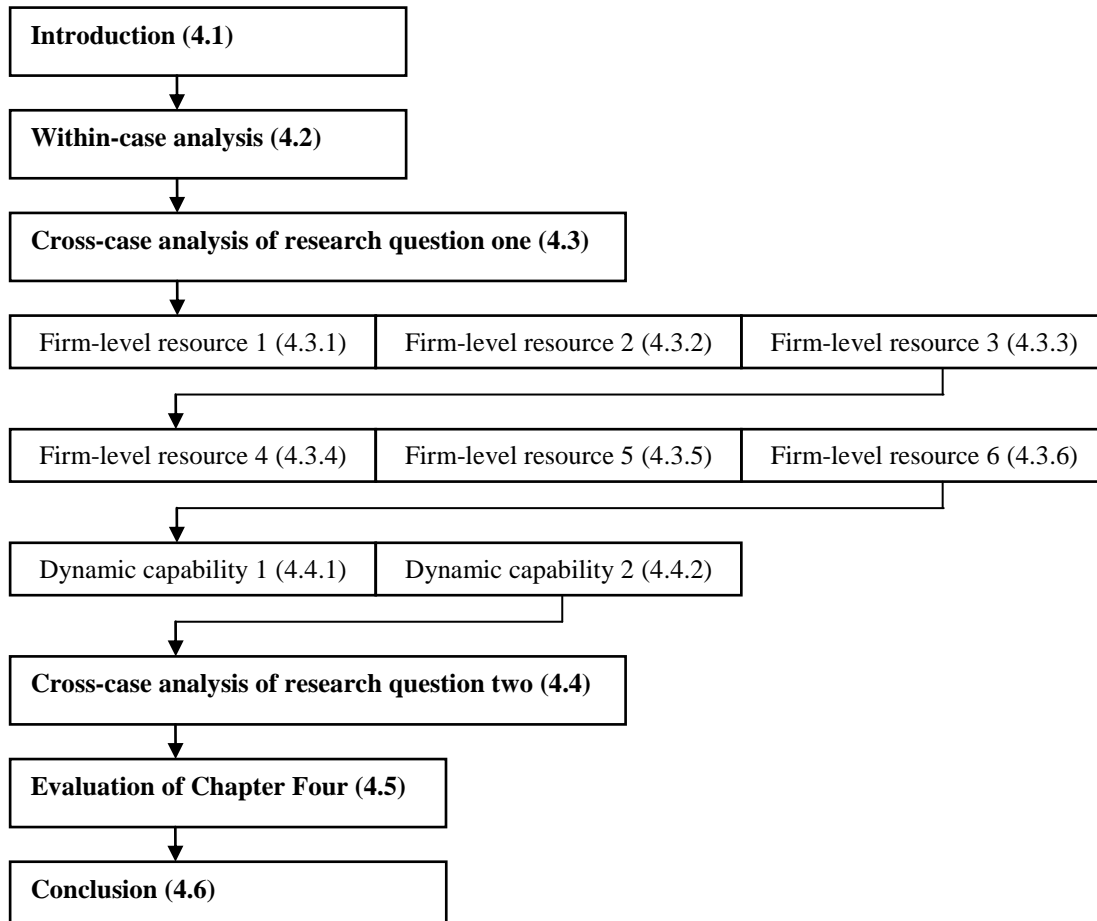
In Chapter Three, the paradigmatic approach and ideological foundation for Study One was discussed. A mixed-method postpositivist approach was adopted in this study, given that research within IE lacks mixed-method approaches (Zahra & George, 2000). Specifically, this chapter outlined the methodology for Study One, which employs multiple case study methodology. Multiple case studies were deemed as an appropriate method for data collection as the technique best addresses 'how' and 'why' research questions, such as research question one being posed in Study One. In this chapter the unit of analysis and unit of data collection were discussed. The overall research design for Study One was also addressed. The validity and reliability of case studies were also discussed. This chapter also addressed the ethical considerations of this research. The analysis of the data collected from Study One will be discussed in Chapter Four.

CHAPTER FOUR: FINDINGS OF QUALITATIVE STUDY ONE

4.1 Introduction

As discussed in Chapter Three, the most suitable methodology chosen as the primary method for research investigation in Study One was in-depth case study interviews. The analysis and presentation of the data in Chapter Four was founded on in-depth interviews conducted with 12 international entrepreneurs, who are owner/founders of individual international entrepreneurial firms. The industries represented in Study One were professional business services, tourism, information communication technology services and consumer goods firms trading in manufacturing of textiles, food products and jewellery. The techniques of the within-case and cross-case analysis assisted in the examination and analysis of research question one (Yin, 1994; Perry, 1998b). A diagrammatic overview of Chapter Four can be seen in Figure 4.1.

Figure 4.1 Diagrammatic overview of Chapter Four



4.2 Within-case analysis

The within-case analysis involved the detailed examination of each single case represented in Study One. A within-case analysis involves the detailed write-up for each firm (Eisenhardt, 1989), often built around pure descriptions central to the generation of insight (Pettigrew, 1990). Through a succinct case write-up the researcher firstly formalised each case study, as presented in Table 4.1, as individual entities presented for examination. The within-case analysis also allowed the researcher to begin to identify the unique patterns of each case before cross-case examination (Eisenhardt, 1989).

The individual within-case analyses were examined in accordance with a number of categories including: *job role of the entrepreneur, age, gender, country of birth, education, number of employees, number of outlets, year of establishment, product orientation, regional focus of the firm, first export market, customer type, turnover per annum, proportion of sales as revenue coming from international customers, and a brief description of the firm's business*, as shown in Table 4.1. It is important to note that information presented in Table 4.1 and in the within-case and cross-case analysis has been altered slightly, in accordance with ethics procedures so as to protect the rights of the international entrepreneurs and businesses under investigation in this research. As such, names of the individual international entrepreneur and the firm are not identified. It is important to note that these omissions have not changed the research in any way that would influence the quality of the data presented or the subsequent interpretation and findings. The participant demographic data file accompanying the case studies in Study One are presented in Table 4.1, followed by the within-case analysis of each case.

Table 4.1 Participant demographic data file

Case #	Job Role of interviewee	Age	Gender	Country of birth	Education	# of staff/ # of outlets	Year established	Product orientation	Regional Focus	Customer Type	Turnover p.a.	Proportion of international sales	Description of the firm
CASE Gs001	Founder & CEO	40	Female	Australia	Technical College	2/1	1989	Goods Health	AU/TW/ CN /HK/NZ/ *US	# B-to-C B-to-B	< \$1 million	25% Moderately international	CASE Gs001 provides a number of wellbeing services to improve people's health, wellbeing and productivity.
CASE Gs002	Founder & Managing Director	61	Male	Australia	No formal qualifications	11/1	1984	Goods Manufacturing	AU/NZ/* AE /FJ	# B-to-B B-to-C	< \$1 million	45% Moderately international	CASE Gs002's wholesale business provides Australia's finest textiles for luxury apartments and accommodation.
CASE Gs003	Founder & Manager	67	Female	Australia	Technical College	6/2	1986	Goods Jewellery	AU/NZ/* US	B-to-C	< \$1 million	35% Moderately international	CASE Gs003 is one of Australia's oldest jewellery businesses and specialises in the sale of rare and exquisite gemstones.
CASE Gm004	Founder & Managing Director	52	Male	Australia	Technical College	26/4	1985	Goods Jewellery	AU/AE/* UK /CN/RU	#B-to-C B-to-B	\$10 million +	75% Highly international	CASE Gm004 travels the world to provide unique and quality diamonds to customers that are rare.
CASE Gm005	Founder & Managing Director	36	Male	Australia	University Degree	75/5	2002	Goods Hospitality	AU/*CN/ IN	# B-to-C B-to-B	\$20 million +	5% Primarily domestic	CASE Gm005 is a small size coffee roasting company that supplies signature blended coffee and coffee machines as well as maintenance.
CASE Gm006	Founder & Managing Director	36	Male	Lebanon	University Degree	18/3	2002	Goods Manufacturing	AU/CN/* UK	B-to-B	\$5 million +	85% Highly international	CASE Gm006 provides services from labelling of corporate uniforms, promotional merchandise and consultancy
CASE Ss007	Founder & Managing Director	62	Female	Australia	Technical College	7/1	1990	Services Marketing	AU/*NZ	# B-to-C B-to-B	< \$1 million	2% Primarily domestic	CASE Ss007 provides financial services including insurance to customers as well as a range of marketing services.
CASE Ss008	Founder & Managing Director	41	Male	Australia	University Degree	3/1	2009	Services Finance	AU/*NZ	B-to-C	< \$1 million	1% Primarily domestic	CASE Ss008 is an independent Australian organisation providing property buyers and developers access to no deposit finance.
CASE Ss009	Founder & Managing Director	34	Female	Australia	University Degree	7/2	2000	Services Software	AU/*US/ CAUK /HK	B-to-B	< \$1 million	25% Moderately international	CASE Ss009 provides jewellery software management systems to businesses, allowing firms to manage their stores.
CASE Sm010	Founder & Managing director	62	Male	New Zealand	No formal qualifications	92/5	1996	Services Tourism	AU/*NZ/ *US / UK	# B-to-B B-to-C	\$2 million +	95% Highly international	CASE Sm010 is one of Australia's leading and most comprehensive independent travel export firms to New Zealand.
CASE Sm011	Founder & Manager	52	Male	Australia	Technical College	42/1	1994	Services Manufacturing	AU/*NZ	B-to-B	< \$1 million	10% Primarily domestic	CASE Sm011 is an Australian wholesale soft drink distributor providing a large range of soft drinks for restaurants.
CASE Sm012	Co-founder & Manager	50	Male	Australia	Technical College	200/ 273	1989	Services Hospitality	AU/*NZ/ TH /NC/CN	B-to-C	\$15 million +	40% Moderately international	CASE Sm012 is a café that has expanded to multiple countries with preminent international growth.

Note. All firms are private, wholly-owned Australian businesses. * First export market and # denotes the primary customer type/ orientation. G= Goods-oriented firm, S= Service-orientated firm, s= Small sized firm, m= Medium sized firm. Country codes: AE= United Arab Emirates, AU= Australia, CA= Canada, CN= People's Republic of China, FJ= Fiji, IN= India, NC= New Caledonia, NZ= New Zealand, RU= Russian Federation, TH= Thailand, TW= Taiwan, UK= United Kingdom, US= United States.

Outline of international entrepreneurship case studies

4.2.1 CASE Gs001

Heath & Wellbeing Services Firm

CASE Gs001 provides a number of health and wellbeing services. The female founder and CEO of CASE Gs001 initially started the business in 1989. The international entrepreneur of CASE Gs001 speaks to corporations throughout Australia, New Zealand, the United States and South-East Asia, sharing practical real-life strategies that help people to improve their health, wellbeing and productivity by finding balance in their lives. Primarily an online business the firm is moderately international with 25% (see Table 4.1) of business revenue coming from international customers. The business exports services globally to Taiwan, China, Hong Kong, New Zealand and the United States. Primarily a business-to-consumer orientation, the business also deals with other service-based companies. With extensive networks in the health and wellbeing industry CASE Gs001 has grown quickly, primarily through the use of Internet technologies. CASE Gs001's intensity of Internet use, ranges from email and website applications to marketing and advertising, market research and as a direct sales channel.

4.2.2 CASE Gs002

Wholesale Luxury Textiles Company

Established in 1984, CASE Gm005 is a wholesale luxury bed linen and furnishing fabric company. Over the past 10 years the business has grown to become a market leader in providing some of the finest luxury fabrics available with a major emphasis placed on providing the widest range of locally produced, quality bedding products. Products in high demand include Australia's leading luxurious feather bed toppers, hotel blankets, microfiber quilts, bathrobes and other quality textiles for the hotel bedroom and bathroom. With primarily a business-to-business orientation, and experiencing strong growth in the wholesale market and high demand of products for residential demand, CASE Gm005 now supplies products to consumers for residential purposes, although the bulk of its revenue comes from wholesale business contracts. As a small company, CASE Gm005 has extended its international market penetration though the extensive use of

formal business networks, international trade shows and forums. With no formal qualifications, the male entrepreneurial founder has turned the business from a small-sized firm into an international company serving multiple countries. The business produces Australian-made products and ships to multiple markets including New Zealand, Fiji, and the United Arab Emirates, via an extensive network of bulk freight forwarders. The international entrepreneur has extensive industry and international experience working in the textiles industry. This previous experience has enabled the business to excel in business within the manufacturing industry.

4.2.3 CASE Gs003

Jewellery and Designer Homewares Retail Business

Established in 1986, CASE Gs003 sells fine designer homewares, specialty gifts and exquisite jewellery from a retail boutique outlet. A moderately international small company, CASE Gs003 exports to the New Zealand and United States market, with just six employees and two retail outlets. Originating as a primarily domestic-based business, CASE Gs003 is expanding with a newly established business in the United States market. The entrepreneur of CASE Gs003's favours distinctly Australian gems and has earned international recognition. With primarily a business-to-consumer orientation, the business relies on traditional networking relationships including the supply chain to coordinate business in the United States market. Therefore, growth in CASE Gs003 is generated minimally through Internet integration, but primarily through more traditional methods of networking. International market growth was the result of demand created through website applications and word of mouth. A 'moderately international' firm, CASE Gs003 receives around 35% of its revenue from an international customer database; however, relationship-based networks and agents in the United States market ensure future international market expansion.

4.2.4 CASE Gm004

Jewellery Firm

Recognised for their rare and exotic gemstones, CASE Gm004 was established in 1985. With a childhood passion for gold and precious stones, the international entrepreneur of CASE Gm004 was inspired initially by a jewellery television commercial. CASE Gm004

has brought his vision of owning and managing a jewellery store to reality. The passion and motivation exhibited by CASE Gm004 is second to none, with the business now extending its reach globally. Exporting to markets such as the United Arab Emirates, the United Kingdom, China and Russia, CASE Gm004 has spawned international market growth through the use of the Internet and traditional networking relationships. Guaranteeing secure international delivery with a 30-day international refund policy, CASE Gm004 has created a secure online environment enabling customers to place orders 24 hours a day, seven days a week.

Although the Internet generates around 25% of new business, the Internet still remains of limited use in countries where customers require close personal interaction such as the United Arab Emirates and Russia. The firm uses online support systems to maintain customer relationships and to generate consumer interest in new markets. CASE Gm004 has also invested large amounts of revenue in developing and maintaining a strong presence in the online community. As such, customers can view designs online and make enquires about products instantly via the Internet. Primarily, international trade shows were used to access new international customers; however the owner/founder highlights that the use of traditional networks in the jewellery industry remains important. This is because many firms within the jewellery industry remain in established, tight network relationships. CASE Gm004 is a highly international firm, as seen in Table 4.1, with a little over 75% of total revenue coming from international customers.

4.2.5 CASE Gm005

Wholesale Coffee Roasting Company

Conceived as an Australian wholesale coffee roasting company, CASE Gs002 is fast becoming a household name by supplying over 11 signature blends of coffee, a range of coffee machines and a number of services, including maintenance and training. CASE Gs002 supplies more than 1000 cafés in Australia and more than 1.4 million cups of CASE Gs002's coffee are sold each week. A passion for coffee and a keen entrepreneurial spirit led the founder of CASE Gs002 to establish a coffee-roasting operation in 2002. Over the last eight years, CASE Gs002 has proceeded to thrive and expand Australia-wide with roasting houses in major cities, including Brisbane,

Melbourne, Sydney and Adelaide. This unprecedented growth has spanned distribution into the Chinese market and soon into the Indian market. While the international component of CASE Gs002 is only 5%, the firm turns over a staggering \$20 million annually.

Dedicated to building relationships and inspiring passion in those around him, the founder and chief executive officer of CASE Gs002 has successfully established a comprehensive business consisting of wholesale, retail, and online sales, and service. CASE Gs002 primarily has a business-to-business customer orientation, although the firm has now tailored some of its coffee products to be sold exclusively through the Internet. Further, digitalisation within CASE Gs002 is being used to support the international aspirations of the company through the recent development of an online store selling direct to wholesalers and consumers. Growth is being generated through traditional networks, word of mouth and the application of the Internet. For example, CASE Gs002 highlighted that the company's official website, online sales, online advertising and marketing, online after sales and support, online purchasing and email use remain of high importance to the firm.

4.2.6 CASE Gm006

Corporate & Promotional Goods Company

CASE Gm006 provides services in the fields of marketing, promotional products, and corporate and safety clothing. More than 30 of the world's 100 leading brands are included in the portfolio of CASE Gm006. Clients are serviced globally on a daily basis via a series of dedicated, sophisticated web stores, all designed and hosted by CASE Gm006. CASE Gm006 is located in Sydney, with regional offices in Melbourne and London, with shipments coming from the East Asia office and warehouse in Shanghai and China. The entrepreneur of case Gm006 has limited international experience in terms of working with overseas companies. However, with formal qualifications including a business degree, the young owner/founder of CASE Gm006 has managed to grow the business quickly: within three years of establishment, the company was featured on BRW's 2011 Australian 100 fast starters. With 18 employees and three outlets, this business-to-business firm has achieved exceptional international market penetration.

Servicing the domestic Australian market, China and the United Kingdom, CASE Gm006 is a highly international company with approximately 85% of the businesses revenue coming from international customers. The company relies heavily on international networks and uses the Internet to develop and maintain international relations. The company also has a high level of Internet integration with a increased use of email and online advertising and marketing, market research, sales, and communications and relying heavily an online supply chain management solutions, guaranteeing delivery in full and on time. In summary, the company uses the Internet as a mechanism to facilitate international business as well as to generate new international market growth.

4.2.7 CASE Ss007

Financial Insurance Services Company

CASE Ss007 is a small marketing and financial services firm established in 1990. The marketing services side of the business provides strategic marketing consultancy services as well as marketing resources to help, consult and coach small business. Primarily a domestic-based business, CASE Ss007 has some clients in the New Zealand market, with approximately only 2% of revenue coming from this market. The company has around 70 employees with only one outlet. The proportion of international revenue extends from the financial services side of the business, which provides fully-integrated financial solutions for clients. The owner/founder of CASE Ss007 is an innovative business owner who has transformed business processes to suit the needs of a changing digital environment. This includes integrating Internet technology, with which the entrepreneur was previously not familiar. Internet integration in CASE Ss007 extends from website applications to email and supply chain management. CASE Ss007 highlights the importance of traditional relationship-based networks as the primary source for business growth domestically.

4.2.8 CASE Ss008

No-Deposit Finance Company

CASE Ss008 is an independent Australian organisation established in 2009. The business provides property buyers, finance brokers, real estate agents, builders, developers and other affiliates access to no-deposit finance solutions. Essentially the business provides interest-free personal loan facilities. Based on the Gold Coast, CASE 008 was formed

through a collaboration of businesses operating in the areas of property development, credit systems, building products and financial services in response to the Global Financial Crisis. The primary vision of CASE Ss008 was to create an integrated property and finance company, which would provide buyers and sellers with an affordable and more efficient way to buy and sell property. CASE Ss008 originally offered services only to the Gold Coast and Brisbane markets, but through increased interest and demand the firm now offers its services nation-wide, despite only working from one outlet with only three employees. High levels of innovation were noted in CASE Ss008 as the business is consistently searching for new and innovative ways to assist buyers in investing in their key development projects. With only 1% international market penetration, as seen in Table 4.1, CASE Ss008 has a vision to extend the business concept into the neighboring New Zealand market. The owner/founder of CASE Ss008 has extensive experience of working in internationally focused firms and has formal links with financial brokers and lenders. Overall, this Australian-born entrepreneur envisions business growth to almost double over the next decade.

4.2.9 CASE Ss009

Jewellery Software Management Company

CASE Ss009 is a small technology-based firm that provides leading software for retail jewellery stores. The business produces easy plug-in and play software designed to manage all aspects of a jeweller's business. The business management system controls the accounting, customer relationship management, marketing, payroll, sales, wholesaler management and web integration of the firm. As a business-to-business operator, CASE Ss009 has been predominantly operating in the domestic market; however international recognition for their software products has enabled CASE Ss009 to internationalise early from inception. Founded in 2000, CASE Ss009 has international customers in the United States, Canada, the United Kingdom and Hong Kong, with approximately 25% of international revenue coming from an international customer database. A moderately international firm, the business is still in its infancy, however international demand is increasing.

4.2.10 CASE Sm010

Independent New Zealand Travel Company

CASE Sm010 is one of Australia's leading and most comprehensive independent travel export firms to New Zealand. This travel-exporting firm boasts the largest and most comprehensive selection of New Zealand travel products. The founder of this internationally focused company indicated that living in New Zealand, the United States and the United Kingdom for more than more five years had helped to motivate the decision to expand the business abroad via the Internet. Although the company is based on the in Australia, the business also has five support offices, including; Gold Coast, Perth, Christchurch, Seattle and the United Kingdom. The firm has a business-to-customer orientation, primarily catering for couples, first-time travels and families seeking a unique travel experience to New Zealand. The international component of the total business revenue is 95%, meaning that the business has a highly international orientation. It is also important to note that as a wholesaler, 100% of the business comes from the travel agent. In terms of technologies integration within the firm, CASE Sm010's intensity of Internet use, ranges from email and website applications to marketing and advertising and developing the firm's own online self-operational booking/reservation system. As a direct result of software development, the business has generated new international market growth across Asia, the South Pacific and Europe. The Internet has allowed CASE Sm010 to specifically build customer itineraries for clients through a simple point and click system, which allows customers to view and print quotes and invoices and to create custom reservations on the software system. A growth rate of 1300% in the last 15 years indicates a prosperous future for CASE Sm010.

4.2.11 CASE Sm011

Wholesale Beverage Firm

CASE Sm011 is a small Australian wholesale soft drink distributor established in 1994. A goods-based business with a business-to-business orientation, CASE Sm011 has grown to become one of the most reputable and reliable beverage distribution companies in the market. Employing 30 people, the company has one warehouse located in South Brisbane, allowing quick access to customers north and south of the city. The company

also has several supporting agents throughout Australia, and relies heavily on traditional network relationships to maintain business growth. CASE Sm011 has a primarily domestic-based business operation with only 10% of revenue coming from the New Zealand market. The firm aims to grow international business throughout the New Zealand market, due to the low psychic distance barriers presented in this market. The business relies on portable hand-held scanning equipment to control inventory stocks. CASE Sm011 indicates minimal use of the Internet for website advertising and email functions only.

4.2.12 CASE Sm012

Restaurant & Food Services Company

Case Sm012 is one of Australia's largest home-grown chain of retail cafés. From the development of its single retail outlet in 1989, CASE Sm012 has established itself as an iconic household name. Originally starting as a small domestic-based entrepreneurial business to meet the untapped demand of the Australian market, the business has now expanded globally with retail outlets in Australia, New Zealand, Thailand, New Caledonia and China. The international entrepreneur of CASE Sm012 has placed a strong emphasis on being a family-grown business, one that has grown exponentially and has become a much-loved brand that is focused on contributing to the Australian community. With around 200 employees and 273 retail outlets, CASE Sm012 is reaching new heights in brand awareness, advocacy and sales through their franchise operations.

CASE Sm012's vision to be the 'global leader' in providing good retail food and coffee is coupled with the company's core values. One of these core values is continual improvement, coupled with actively promoting innovative practice in all business activities. With approximately 40% of revenue coming from international customers, this moderately international company envisions that international market growth will expand by at least 30% over the next five years. The business also relies on substantial integration of the Internet into point-of-sale systems to allow the business to track inventory across all stores, track and record profit and loss margins, determine top selling items, and record employee information. CASE Sm012 also highlights the importance of Internet use for marketing, website advertising, blogging and for social media purposes.

4.3 Cross-case analysis of research question one

Coupled with the within-case analysis is a cross-case search for patterns (Eisenhardt, 1989), which gives the research a higher degree of analytical complexity and encourages the investigator to look beyond the initial interpretations of the data (Perry, 1998b). Cross-case synthesis is performed to ensure robustness in the data presented, ultimately giving the results greater meaning, due to the strengthening of data findings across the multiple cases presented (Perry, 1998b; Yin, 2009). Cross-case analysis also improves the likelihood of accurate and reliable theory development, through capturing novel findings that may exist in the data (Eisenhardt, 1989). The frequency and emphasis of the statements presented can also be used to justify patterns or themes emergent from the data, and also to identify the similarities and differences between cases which will inform theory development (Patton, 1990; Yin, 2009).

Initial examination of case study evidence in the form of in-depth interviews, website data, and promotional materials revealed a large amount of information accumulated. To ensure the coding process was rigorous, analytical coding techniques were utilised to manage the data (Strauss & Corbin, 1998; Fereday & Muir-Cochrane 2008). A line-by-line, phrase-by-phrase coding process was used to break down data into individual pieces of evidence so as to label and categorise data effectively (Strauss & Corbin, 1998). The systematic classification process involved analysing text according to research question one. Research question one can be seen in Table 4.2, which also shows the protocol section, corresponding question in the interview guide and the research focus. Following Table 4.2, the data will be examined in accordance with research question one.

Table 4.2 Cross-case analysis, with corresponding research and protocol questions

Research question	Protocol section	Corresponding question	Research focus
<i>Questions 1-5 (PART D) are opening questions & Questions 32-33 (PART K) are closing questions</i>			
<i>RQ 1: What are the firm-level resources and Internet, international marketing capabilities of firms, and how do they influence international performance?</i>	PART E:	Qs: 6, 7, 8, 9	International entrepreneurial orientation as a firm-level resource
	PART F:	Qs: 10, 11, 12, 13	Technology-related international vision as a firm-level resource
	PART G:	Qs: 14, 15, 16, 17, 18, 19	International business experience as a firm-level resource
	PART H:	Qs: 20, 21, 22	Internet, international marketing capabilities
	PART I:	Qs: 23, 24, 25, 26	International virtual network capabilities
	PART J:	Qs: 27, 28, 29, 30, 31	International market outcomes and performance of the firm

Research question one

RQ 1: What are the firm-level resources and Internet, international marketing capabilities of firms, and how do they influence international performance?

Research question one incorporates five firm-level *a-priori* resource constructs: *Firm-level resource 1: International technology-related innovation; Firm-level resource 2: International technology-related proactiveness; Firm-level resource 3: International technology-related risk-taking propensity; Firm-level resource 4: Technology-related international vision; and Firm-level resource 5: International business experience.* Research question one also incorporates two capabilities: *Capability 1: Internet, international marketing capabilities and; Capability 2: International virtual network capabilities.*

4.3.1 Firm-level resource 1: International technology-related innovation

The first concept to be addressed was international technology-related innovation. All firms were asked to identify: (i) *something different or new the business had done in the past year to do with their international customers, and (ii) if it was important for the firm to be continually innovative with Internet technologies.* The questions in relation to international technology-related innovation can be seen in Appendix 1.

Seven firms (Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm012), as shown in column (A) of Table 4.3, viewed innovation to be 'very strongly important'. Two firms (Gs001, Gs003) indicated 'strong importance', while a further three firms, (Gs002, Ss007, Sm011) indicated 'moderate importance'. Eight firms (Gs001, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm011) signified the ability to establish new products in an online space, as seen in column (B). Re-producing existing products in a new way, as seen in column (C), was evident in six firms (Gs002, Gm006, Ss007, Ss008, Ss009, Sm010). Six firms (Gs001, Gm004, Ss008, Ss009, Sm010, Sm011) introduced new methods of production in online environments, as shown in column (D).

Opening new markets enabled by the Internet was seen in eight firms (Gs00, Gs003, Gs004, Gm005, Ss008, Sm010, Ss009, Sm012), as shown in column (E). Developing new organisational structures in an online space column (F), and implementation of untried Internet technologies previously not used in the firm column (G), was evident in only two firms (Ss009, Sm010). Use of the Internet to achieve successful international outcomes was seen in nine firms (Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss008, Sm010, Ss009, Sm012), as shown in column (H). Six firms, (Gs001, Gs003, Gm005, Ss009, Sm010, Sm012), as shown in column (I), engaged in experimentation with the Internet in internationalisation activities. The level of innovation, as seen in column (J), shows very high levels in two firms (Ss009, Sm010); high levels in two firms (see, Gs001, Gm004); moderate levels in six firms (Gs003, Gm005, Gm006, Ss008, Sm011, Sm012); and low levels in a further two firms (Gs002, Ss007).

Table 4.3 Levels of international technology-related innovation

		Type of innovation explicit in firm processes in an Internet-based environment									
	A	B	C	D	E	F	G	H	I		J
Case	Level of importance of innovation	New product development in an online environment	Re-producing an existing online product in a new way	Introducing new methods of production in an online space	Opening new markets enabled by the Internet	Developing new organisational structures in an online space	Implementing untried Internet technologies previously not used	Using the Internet to achieve international outcomes	Experimentation of the Internet in firm internationalization activities	Descriptive comment	Level of innovation
Case Gs001	SI	✓	-	✓	✓	-	-	✓	✓	Online booking and payments systems.	High
Case Gs002	MI	✓	✓	-	-	-	-	✓	-	Everything done in-house. Overhauled textile market.	Low
Case Gs003	SI	-	-	-	✓	-	-	✓	✓	Searches for new products to remain competitive.	Moderate
Case Gm004	VSI	✓	-	✓	✓	-	-	✓	-	Continually innovative in relationship networking to secure global markets.	High
Case Gm005	VSI	-	-	-	✓	-	-	✓	✓	The epitome of an innovative firm. Essential to all business practice.	Moderate
Case Gm006	VSI	✓	✓	-	-	-	-	✓	-	Global infrastructure mindset, with a low-overhead operation.	Moderate
Case Ss007	MI	-	✓	-	-	-	-	-	-	Introduced new insurance plans for existing clients.	Low
Case Ss008	VSI	✓	✓	✓	✓	-	-	✓	-	Developed a new organisational structure and a new product never before seen on the market.	Moderate
Case Ss009	VSI	✓	✓	✓	✓	✓	✓	✓	✓	<i>Runs a virtually cost-less business.</i>	Very High
Case Sm010	VSI	✓	✓	✓	✓	✓	✓	✓	✓	<i>Developed a booking engine to complement the business structure domestically and globally.</i>	Very High
Case Sm011	MI	✓	-	✓	-	-	-	-	-	Uses technology for stock inventory but is not continually innovative.	Moderate
Case Sm012	VSI	-	-	-	✓	-	-	-	✓	Spawned into multiple markets by replication of a successful firm structure.	Moderate
<i>Aggregate</i>		8/12	6/12	6/12	8/12	2/12	2/12	9/12	6/12		

Note. VSI = Very strong importance, SI = Strong importance, MI = Moderate importance, tick represents 'use', dashed line (-) = Non-use, bold and italicised font = Indicates very high levels of international technology-related innovation.

Evaluation of international technology-related innovation

Three key findings from the data in relation to how international technology-related innovation influences firm performance have been identified: (1) *new product development in an online environment*, (2) *opening of new markets enabled by the Internet*, (3) *use of the Internet to achieve successful international outcomes*, and (4) *technology-related innovation and markets of similarity*. These key findings are discussed below.

(1) New product development in an online environment

Firms in this research indicated that the ability to establish new ideas and products in an online space was one of the top priorities of the firm. This is particularly evident in eight of the cases (Gs001, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm011). Use of the Internet in non-traditional niche retail spaces has also assisted small international entrepreneurial firms in promoting products and services for international markets. For example, one quote included in Table 4.4 conceptualises the use of the Internet to reach niche markets in Russia. Case Gm004 (jeweller), exporter of pink diamonds said; *'...there's a negative perception about Australian jewels. People come to us because of our pink diamonds – we create uniqueness. People know the exquisite nature of these diamonds because of the Internet, even in Russia. We are now the largest exporter [of pink diamonds] from Western Australia'*. Similarly, Case Ss009 (plug-and-play software) and Sm010 (NZ travel provider) are highly innovative pure.com firms which have established products and services purely for the virtual market. The two international entrepreneurial cases also show a clear relationship between the acceptance and application of the Internet and the development of new products to increase customer value in Internet environments.

(2) Opening of new markets enabled by the Internet

Eight out of the 12 cases (Gs00, Gs003, Gs004, Gm005, Ss008, Sm101, Ss009, Sm012) indicated that Internet-enabled opening of new markets was perceived to be important for the international development of the firm. For example, Case Gm005 (coffee roasting business) states that the business has used the Internet to secure business opportunities in

the Chinese market and is looking to grow the business into India within the year: *'We are a people-based company foremost. But we adapt technology where we need it, where appropriate.'* *'Our website is now one of the largest in the country. And we are making investments in Chinese market and Indian market later this year...'* Similarly, Case Sm012 (food and beverage provider) explains how the business has received global attention, via the Internet from many countries including Egypt; *'The Internet has made brands small become recognised globally. The Internet has made the world a smaller place; everyone is knowledge hungry... We have global expressions of interest including Egypt, from someone who hasn't even been to Australia.'*

(3) Use of the Internet to achieve international performance outcomes

The use of the Internet to achieve successful international outcomes was evident in nine out of 12 cases (Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss008, Sm010, Ss009, Sm012). For example, one quote from Table 4.4 shows that Case Ss009 (plug-and-play software) was built initially to become global in nature; *'We built the business from the outset to be international... From the outset we wanted to be jewellery specific and totally online, that's our point of difference so we'll go worldwide.'* Similarly, the owner/founder of Case Sm010 (NZ travel provider), as seen in Table 4.4, speaks of the business's international scope, stating that international business has grown exponentially: *'...we have added Pacific Islands, the UK and US to our customer base.'* *'The business has increased by 1300% over the last 15 years; we are defiantly looking at more international market growth.'* The cases demonstrating 'very high' levels of innovation display this innovation through development and enhancement of online products and services, such as the new customer relationship management systems in Case Sm010, and technologies for improving the international organisational operations of the firm in Case Ss009.

The data and quotes from interviews supporting the three opportunity-seeking constructs – *New product development in an online environment (PD)*, *Opening new markets enabled by the Internet (NM)*, and *the use of the Internet to achieve international performance outcomes (PO)* – are shown in Table 4.4.

Table 4.4 Supporting quotations for international technology-related innovation

Case code	New product development (PD) Opening new Internet markets (NM) International performance outcomes (PO)
Case Gs001	<p>PD: New skincare product development. <i>'In fact I've got 300 kilos worth of skincare products going to Taiwan today and I've got two cartons of books going to South Korea today.'</i></p> <p>NM: <i>'All of my business is on the Internet. And in fact I've been sitting here creating new web links. Another website landing page.'</i></p> <p>PO: <i>'...about a quarter of our business in international. 25%. Mostly from the North American market and all from our investments into net technology to achieve international growth.'</i></p>
Case Gs002	<p>PD: <i>'A huge product for us is the feather and down bed topper... It's 40% down and in Australia they sort of think if they put any more than 10% (down) it's absolutely super luxurious – a new product never before seen in the Australian market... I mean you get imitations.'</i></p> <p>PO: <i>'We export to New Zealand and other countries like Abu Dhabi, Dubai and Fiji are all customers from the Internet. The Internet is important but the only way to, you know, do business with hotels and these sorts of people (in the UAE) was really to be knocking on doors...'</i> <i>'But no doubt yes the Internet is important for our company to move forward and go internationally.'</i></p>
Case Gs003	<p>NM: <i>'We place a strong importance on using the Internet to reach in particular our US clients... Also those customers in the NZ market.'</i></p> <p>PO: <i>'The business is mainly domestic although I envision the US component of our global customer database to increase by at least 25% in the next five years, and the Internet will truly make this process easier.'</i></p>
Case Gm004	<p>PD: <i>'...there's maybe a negative perception about Australian jewels. But people come to us because of our pink diamonds, they are number one – people want something different and we can create that uniqueness they desire.'</i> <i>'People know about the exquisite nature of these diamonds because of the Internet. We have the largest exporter (of pink diamonds) in Western Australia.'</i></p> <p>NM: <i>'...our computer software and stock systems are all Internet based. If we didn't have the Internet we wouldn't be here. We have been able to use the Internet to overcome culture barriers in the United Arab Emirates and in Russia, primarily because they don't speak English.'</i></p> <p>PO: <i>'We've just signed a contract with one of the biggest most iconic/ prestigious carmakers in the world... We have just signed a contact with the world.'</i> <i>'We are not looking at anymore standalone stores, but stores within the car dealership (previously mentioned).'</i></p>
Case Gm005	<p>NM: <i>'We are a people-based company foremost. But we adapt technology where we need it, where appropriate.'</i> <i>'Our website is now one of the largest in the country. And we are making investments in Chinese market and Indian market later this year...'</i></p> <p>PO: Participant is asked why go to China and India? <i>'They are the fastest growing economies... I'm not going to Italy where there's already people drinking coffee... Instead I'm going to a new market where Starbucks is paving the way and I can go in and show them how to do it better...'</i></p>
Case Gm006	<p>PD: <i>'We are pretty much the only company in this industry that has an industry magazine.'</i> <i>'It's in print publication. Call it old fashioned but it works.'</i> <i>'...so we've got a highly competitive field of mums and dads, backyard operators, but we are innovative by having an industry-first magazine and our online payment platforms and delivery process are second to none in relation to what our competitors offer our clients.'</i></p> <p>PO: <i>'The UK market is a big market for us. We haven't really hit the ground running there. It's been very turbulent. Europe interests us; Australia is very close to Europe in terms of business philosophies and structure, so we hope to be there in a few years...'</i></p>
Case Ss007	<i>'Indicates no PD, NM or GO'</i>
Case Ss008	<p>PD: <i>'There are two key words for any entrepreneur in my opinion. The first one is innovation, the second, being able to innovate.'</i> <i>'...I developed this latest business based on the fact that the market had changed. We created a boutique sales incentive for buyers to help buyers. It is simply a 10 year, interest-free loan.'</i> <i>'We are only just starting to maximise the Internet side of the equation...'</i></p> <p>NM: <i>'We are tapping into the NZ market through the Internet also through using our pre-established networks...'</i></p> <p>PO: <i>'We have interest expressed by countries like Vietnam, but we remain primarily domestic for now.'</i></p>
Case Ss009	<p>PD: <i>'We created a 'plug-and-play' software program in 2000 because we recognised a need in the industry and also identified that the Internet could actually deliver a web-based solution that could be brought or sold anywhere in the world...'</i></p>

	<p>NM: <i>'We thought by default the US would be our biggest markets...'</i> <i>'The US has a lot of competition, there was like 30 other jewellery specific software providers. The US also is not the US, its 50 different states and they all see themselves individually.'</i> <i>'For us the UK and Hong Kong market has been most fruitful.'</i></p> <p>PO: <i>'We built the business from the outset to be international...'</i> <i>'From the outset we wanted to be jewellery specific and totally online, that's our point of difference so we'll go worldwide...'</i></p>
Case Sm010	<p>PD: <i>'The vision was to always have an extensive distribution system of travel agents across Australia....'</i> <i>'The thing is we are selling NZ travel to customers from highly trained and knowledgeable staff.'</i> <i>'Being the largest seller of NZ travel we have alerted our products to suit our clients' needs,'</i> <i>'...we bought it [ski business] because we felt we could operate it efficiently and in actual fact it's helped us more than anything else because it's added extra bookings when we needed them. With downturns we always run very lean. We don't have any extra staff. It's important in my opinion to have new innovative business...'</i></p> <p>NM: <i>'The vision is that if we could get it going here [Aus], we could expand globally and become a significant seller of NZ as a wholesaler.'</i> <i>'Necessity is the mother of invention. I was getting really annoyed as many Internet guys [competitors] were killing us with price. So we decided to be fully web operational, now we can target any market we like, specifically the UK and the US.'</i></p> <p>PO: <i>'...we have added Pacific Islands, the UK and US to our customer base...'</i> <i>'The business has increased by 1300% over the last 15 years; we are defiantly looking at more international market growth.'</i></p>
Case Sm011	<p>PD: <i>'Most people in our business don't have time for the Internet. They rely on someone walking through the door and selling stuff to them. That's what makes us different because we had developed online stock and ordering systems, this serves the NZ market well.'</i></p>
Case Sm012	<p>NM: <i>'The Internet, Wi-Fi, Facebook have made the ability of any brand to be recognised globally. The Internet has made the world a much smaller place, everyone is knowledge hungry... this is great for us, now we have global expressions of interest- including: Egypt of all places, from someone who hasn't even been to Australia.'</i></p> <p>PO: <i>'We believe that our business model would work excellently in Bahrain. Dubai is another one, Abu Dhabi is fantastic.'</i> <i>'We will continue to become more reliant on the Internet to make our company more well-known.'</i></p>

(4) Technology-related innovation and markets of similarity

A key finding derived from the data and captured in Table 4.1 and 4.3 is that a total of 10 firms out of the 12 interviewed in this research (Gs001-US, Gs003-US, Gm004- UK, Gm006- UK, Ss007- NZ, Ss008- NZ, Ss009- US, Sm010- NZ/ UK, Sm011- NZ, Sm012- NZ), first internationalised to markets of similarity, as denoted by the country code represented in Table 4.1. That is, the findings suggest that firms will tend to select those countries most similar to the home country. Of the ten firms, one case (GS001) displayed 'low' levels on innovation; five firms indicated 'moderate' levels (Gs003, Gm006, Ss008, Sm011, Sm012), two firms displayed 'high' levels (Gs001, Gm004), and a further two firms indicated 'very high' levels of innovation (Ss009, Sm010). It is important to note that the elements in this research are delimited to language, culture and legal regulations only. Two firms initially internationalised to markets of dissimilarity (Gs002 – UAE, Gm005 – CHN), and Table 4.3 indicates that these firms displayed 'low' and 'moderate' levels of innovation respectively. This finding suggests that international technology-related innovation seems to matter more in firms exporting to markets that share similar

characteristics to that of the home market. For example, one quote from Case Gm005 (coffee roasting business) confirms that the company first exported to the Chinese market: *'we are making investments in the Chinese and Indian market later this year.'* The participant was asked, 'why go to China and India?': *'They are the fastest growing economies... I'm not going to Italy where there's already people drinking coffee... Instead I'm going to a new market where Starbucks is paving the way and I can go in and show them how to do it better.'* This statement suggests that while markets of dissimilarity can offer abundance of opportunity, technology-based innovation matters less in high-context/dissimilar markets.

Types of innovation not identified

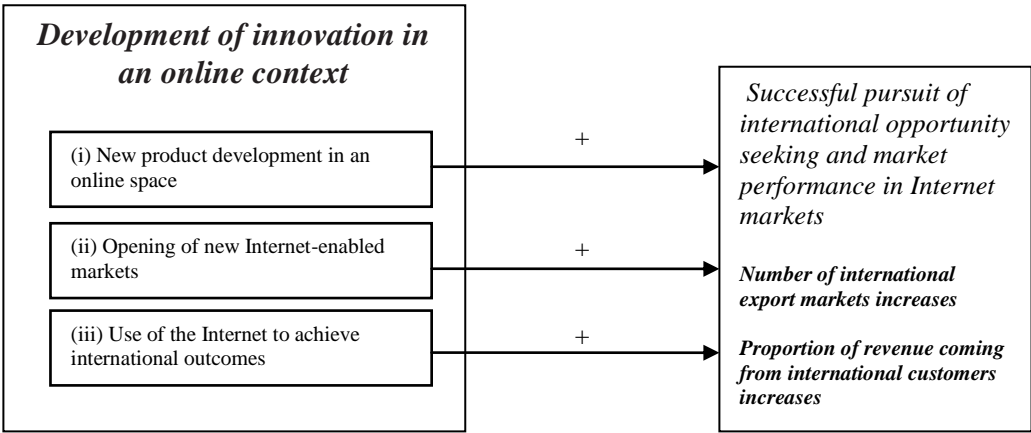
It was predicted that reproducing an existing online product in a new way, introducing new methods of production in an online space, developing new organisational structures in an online space, implementing untried Internet technologies previously not used, and experimenting with the Internet in firm internationalisation activities would be identified as important aspects of innovation. Table 4.3 indicates that these types of innovation are not essential components required for firms operating in an online environment. Those firms indicating low levels of innovation recognised the importance of the Internet at a general business level, but also realised that they lacked an appreciation of the Internet in creating new innovative ways to achieve international outcomes. These firms also noted that they found Internet use complex and costly to implement, most likely due to the turbulent and highly saturated competitive environments in which these small international entrepreneurial firms compete.

Overall discussion: International technology-related innovation

Overall, it was found that: (1) *new product development*, (2) *opening of new Internet-enabled markets*, (3) *use of the Internet to achieve international outcomes*, and (4) *technology-related innovation and markets of similarity* are important aspects of international innovation in SMEs. Firms that engage in innovative behaviour encompassing these key aspects of innovation stand to achieve international gain. The findings from the data, as presented in Figure 4.2, suggest that international technology-

related innovation influences the perception of international market outcomes. The findings also indicate that innovation seems to matter more in markets of similarity, where key elements such as language, culture and legal regulations are comparable to the home operating market. The previous assertion argues that innovation processes are more important in Internet environments and are critical to the firm's successful pursuit of international markets.

Figure 4.2 International technology-related innovation and international markets



4.3.2 Firm-level resource 2: International technology-related proactiveness

The second concept to be addressed is international technology-related proactiveness. All firms were asked: (i) *whether the firm used Internet technology to attract and attain customers in international markets*, (ii) *where the manager envisioned the business to be in five years' time*, and (iii) *if strategies were put into place to anticipate the future market needs to secure new international opportunities*. The questions in relation to international technology-related proactiveness can be seen in Appendix 1.

Nine cases (Gs001, Gs002, Gs004, Gs005, Gm006, Ss008, Sm010, Sm011, Sm012) as shown in column (A) of Table 4.5, viewed international technology-related proactiveness to be 'very strongly important'. One firm (Gs003) indicated 'strong importance', while a further two firms (see, Ss007, Sm011) indicated 'moderate importance'. Four firms (Gm005, Gm006, Ss009, Sm010) signified that the firm created first-mover advantages in an online space, as shown in column (B). Capitalising on new product innovations to create opportunity online was noted in five firms (Gm005, Gm006, Ss008, Ss009, Sm010), as seen in column (C). Three firms (Ss009, Sm010, Sm012), as seen in column (D), indicated that the firm was more proactive than competitors towards new online marketplace opportunities. Maintaining a forward-looking perspective was also mentioned by 10 firms in this research (Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm012), as seen in column (E). Proactiveness in international opportunity seeking in Internet-mediated environments was highlighted in five firms (Gm004, Gm005, Gm006, Ss009, Sm010), as noted in column (F). Anticipating the future online needs of the firm as seen in column (G) was identified in 11 firms (Gs001, Gs002, GS003, Gs004, Gs005, Gm006, Ss007, Ss008, Ss009, Sm010, Sm012).

The level of proactiveness, as shown in column (H), indicates very high levels of proactiveness in four firms (Gm005, Gm006, Ss009, Sm010); high levels in one firm (Sm012), moderate levels in three firms (Gs002, Gm004, Ss008), and low levels in a further four firms (Gs001, Gs003, Ss007, and Sm011).

Table 4.5 Levels of international technology-related proactiveness

	Type of proactiveness explicit in firm processes in an Internet-based environment							H	
	A	B	C	D	E	F	G		
Case	Level of importance of proactiveness	Creates first-mover advantages in an online space	Capitalises on new product innovations to create opportunity online	More proactive than competitors towards new online marketplace opportunities	Maintains a 'forward-looking' perspective	Proactive in international opportunity seeking in Internet-mediated environments	Anticipates the future online needs of the firm	Descriptive comment	Level of international proactiveness behaviour
Case Gs001	VSI	-	-	-	✓	-	✓	Self-driven and proactive about travelling the world and bringing new ideas to life across multiple international markets simultaneously.	Low Reactive
Case Gs002	VSI	-	-	-	✓	-	✓	National brand that has taken heed of many new opportunities in international markets through the Internet.	Moderate Proactive
Case Gs003	SI	-	-	-	✓	-	✓	Maintains a forward-looking approach to business but does not actively seek out new opportunities.	Low Reactive
Case Gm004	VSI	-	-	-	✓	✓	✓	Highly international and forward-looking firm which has attained a global partnership with an international brand.	Moderate Proactive
<i>Case Gm005</i>	<i>VSI</i>	✓	✓	-	✓	✓	✓	<i>Actively pursues high-context cultures (e.g. China & India) and creates first mover advantages.</i>	<i>Very High Proactive</i>
<i>Case Gm006</i>	<i>VSI</i>	✓	✓	-	✓	✓	✓	<i>Started a magazine which distributes over 30, 000 copies internationally. Creates first-mover advantages.</i>	<i>Very High Proactive</i>
Case Ss007	MI	-	-	-	-	-	✓	Indicates low internationally focused proactiveness, but anticipates future needs for the growing firm in a digital space.	Low Reactive
Case Ss008	VSI	-	✓	-	✓	-	✓	Proactive in developing new products to suit a changing market. Proactive despite some noted barriers to entry.	Moderate Proactive
<i>Case Ss009</i>	<i>VSI</i>	✓	✓	✓	✓	✓	✓	<i>First mover competitive advantages in the development of 'pay-per-click' software unique and untried.</i>	<i>Very High Proactive</i>
<i>Case Sm010</i>	<i>VSI</i>	✓	✓	✓	✓	✓	✓	<i>Creates first-mover competitive advantages through Internet-based customised products for clients.</i>	<i>Very High Proactive</i>
Case Sm011	MI	-	-	-	-	-	-	Domestic-based firm indicates no level of proactiveness.	Low Reactive
Case Sm012	VSI	-	-	✓	✓	-	✓	Consistently targets high-context international markets (e.g. China, Thailand & New Caledonia).	High Proactive
<i>Aggregate</i>		4/12	5/12	3/12	10/12	5/12	11/12		

Note. VSI = Very strong importance, SI = Strong importance, MI= Moderate importance, tick represents 'use', dashed line (-) = Non-use, bold and italicised font = Indicates very high levels of international technology-related proactiveness.

Evaluation of international technology-related proactiveness

The data indicates two aspects of international technology-related proactiveness that positively influence firm performance: (1) *Maintaining a forward-looking perspective* and, (2) *Anticipating the future online needs of the firm*. These key findings will now be discussed.

(1) Maintaining a forward-looking perspective

A total of 10 firms in this research (see, Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm012) highlighted that maintaining a forward-looking perspective in an online environment was one of the key priorities of the firm. Participants indicated a forward-looking perspective by being able to clearly articulate the business's future direction and anticipate the future market challenges that may face the business. For instance, a highly international firm such as Case Gm004 (Jeweller), as shown in Table 4.6, has around 75% international revenue and consistently searches for international growth opportunity. The international entrepreneur explained that the business always maintains a forward-looking perspective through growth: *'...we are always looking at growth.... Making international decisions you constantly weigh up time and money for the best rewards – personally and financially. The future in what we do lies in developing our strategic alliances and in five years we will significantly increase our international client database more than three-fold...'* (Case Gm004). Similarly, Case Ss009 (plug-and-play software), as noted in Table 4.6, capitalised on creating a new software management programs to cater industries beyond just jewellery: *'Now, there's two ways we see ourselves moving forward. One is through international sales in the jewellery market, the other involves going into a very similar market, which is the bicycle industry. We believe our product will work in the same way so long as we set it up right from the outset...'*

Being 'highly proactive' by developing innovations to create opportunity was an aspect of proactiveness evident in Case Gm005 (coffee roasting business). The manager explained that the business had developed a new category of coffee, catering to those markets where espresso coffee is most favoured; *'I've taken a product that's top quality and created a*

new product category. There's espresso coffee, instant coffee and I've made a third category – espresso instant. Three years in the making and it will only be for sale online as of next Monday...' (Case Gm005). By developing new product categories, Case Gm005 was also anticipating the future online needs of the firm.

(2) *Anticipating the future online needs of the firm*

Anticipating the future online needs of the firm was evident in 11 out of the 12 firms interviewed (Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss007, Ss008, Ss009, Sm010, Sm012). The international entrepreneurs indicating anticipation of the future online market needs of the firms are alert perceivers of international market opportunity and in some cases, (Ss008, Ss009, Sm010) as highlighted in Table 4.6, exploit the markets operating environment to realise business potential. For example, Case Ss008 (no-deposit finance) highlights that the business was essentially established by exploiting changing market needs. The international entrepreneur took advantage of declining market value and explained: *'...I developed the business because the market changed. A lot of our clients were property developers; they were making big money when the market was great. Then they stopped having any profit and the biggest issue was selling property.'* Taking advantage of the unfavourable financial climate opened new opportunities and possibilities, which were seized by the business: *'...the benefit [of exploiting market opportunity] was it created an opportunity for us to set up shop. We have some pretty significant, not unsurpassable, barriers to entry. But we've also got the first mover advantage...'* (Case Ss008). The data and quotes from interviews supporting 'Anticipation of the future online needs of the firm' are shown in Table 4.6 below.

Table 4.6 Supporting quotations for firms anticipating future online needs

Case code	Anticipating future online needs of the firm
Case Gs001	Currently building an app to cater to the growing online customer clientele. <i>'...the Internet will always be important for my type of business. Increasingly, the Internet will become more important. I am currently building an app... That's just one way I see y business growing.'</i>
Case Gs002	Invests in selected resources and runs a 'tight-ship' to keep the online side of the business successful. <i>'Everything comes from Brisbane. Everything we do is in-house. Including all our photography. It's the only way we can remain completely competitive. And while we are still a 'knock-on-doors' business our online site is becoming more important now more than ever.'</i>
Case Gs003	Development of online payment systems. <i>'We are not using the Internet currently the best of our advantage. But we know it's important and I know that</i>

Case code	Anticipating future online needs of the firm
	<i>I will have to spend more money and time building my site. My US customers actually want this. An online payment system would be something I would look into for the future.'</i>
Case Gm004	Future growth through strategic alliances <i>'The Internet is helping us to overcome issues of country of origin in relation to Australian diamonds. You see the people especially in China are only starting to understand Australian diamonds are fantastic. We have just signed an international license, growth for us is still important but no through individual stores.'</i>
Case Gm005	New product development to serve new future market needs. <i>'I've taken a product that's top quality and created a new product category. There's espresso coffee, instant coffee and I've made a third category- espresso instant. This recognition is important for future growth domestically but also internationally.'</i>
Case Gm006	Run's a 'tight-ship' and keeps the business lean through online sales sites for international expansion. <i>'Retail space right now [makes me] nervous and scared. Everything online is cheaper so people buy online. We run a tight-ship in the good times, and manage downturns. Our online facilities are second to none in relation to our competitors; they have to be because the GFC isn't going away anytime soon.'</i>
Case Ss007	Increasing online traffic. <i>'We have our Internet site and that works well for us. Our goal is to increase online traffic, currently there is not so much.'</i>
Case Ss008	Exploiting the market operating environment. <i>'...I developed the business because the market changed. A lot of our clients were property developers, they were making big money when the market was great, and everybody was just rolling in money. Then they stopped having any profit and the biggest issue was selling property. But the benefit to that was it created an opportunity for us to set up shop. We have some pretty significant, not unsurpassable, barriers to entry. But we've also got the first mover advantage...'</i>
Case Ss009	Exploits market opportunities. <i>'Now, there's two ways we see ourselves moving forward. One is through international sales in the jewellery market, the other involves going into a very similar market, which is the bicycle industry. We believe our product will work in the same way so long as we set it up right from the outset...'</i>
Case Sm010	Exploits the market operating environment. <i>'...Tourism NZ tried to computerise the reservation and booking engine; it was a nightmare they failed... There's no middle man – no interim like Wotif.com; it's complex but we've got it right and that's unique to us – we don't lease our software, we are the first to develop it...'</i>
Case Sm011	<i>'Indicates no anticipation of the future online needs of the firm'</i>
Case Sm012	Future growth through online brand awareness <i>'We've got so much interest from a lot of Asian countries. They see the business on the Internet; they come over and experience it... The Internet has made the world a smaller place... But is very good for brand awareness and our international expansion to places never before we thought we would go... Egypt, Dubai, China, Russia...'</i>

Types of proactiveness not identified

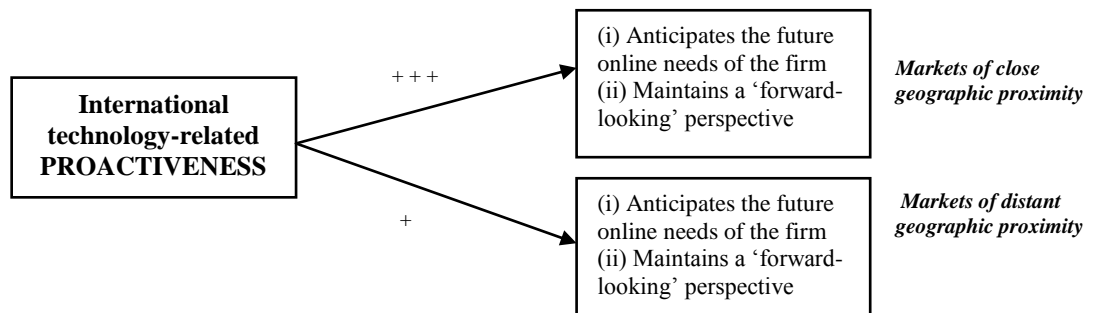
The findings from the data indicate that the following factors are not essential components of proactiveness required for firms operating in an online environment: creating first-mover advantages in an online space, capitalising on new product innovation to create opportunity online, being more proactive than competitors towards new online marketplace opportunities, and being proactive in international opportunity seeking in Internet-mediated environments. The cases indicating lower levels of international proactiveness are less inclined to seek out new international opportunities

and fail to search for better opportunities presenting themselves abroad. The international market is full of lucrative, but in many cases non-exploitable, opportunities for small firms, even though these opportunities may be much more profitable than those existing in the domestic market.

Overall discussion: International technology-related proactiveness

The findings from the data indicate that: (1) *maintaining a forward-looking perspective*, and (2) *anticipating the future online needs of the firm* are important components of the international proactiveness of international entrepreneurs in an online environment. Maintaining a forward-looking opportunity seeking perspective was seen in nine out of the 12 firms interviewed in this research. (Gs001, Gs002, Gs004, Gs005, Gm006, Ss008, Sm010, Sm011, Sm012). These nine firms indicated that the primary motivation for exporting was taking advantage of lucrative international opportunities. Firms stimulated by this opportunity-seeking factor proactively devoted time and effort to systematically tracking down international opportunities, rather than merely discovering them, ranking opportunities in accordance with firm resources, and selecting those opportunities which best fit with the firm’s own vision and international market objectives. The findings also indicate that those firms with manufacturing sites close to export markets (Gs002, Gm004, Gm005, Gm006, Ss007, Ss008, Ss009, Sm010, Sm012) are more inclined to engage proactively in internationalisation. Overall, Figure 4.3 shows that firms in close physical proximity to international markets are very likely to consider their export activities as merely an extension of domestic business activities and are more likely to proactively commit resources to those international markets.

Figure 4.3 International technology-related proactiveness and international markets



Note. Figure 4.3 shows a strong relationship between international technology-related proactiveness and markets of close geographic proximity. Therefore firms are less inclined to engage proactively in geographically distant markets despite the arguments that the Internet breaks down barriers.

4.3.3 Firm-level resource 3: International technology-related risk-taking propensity

The next concept to be addressed is international technology-related risk-taking propensity. To address risk-taking propensity, all firms were asked: (i) *to comment on whether the firm had made any recent investments in costly international Internet-based projects*, and (ii) *whether the firm would be specifically targeting any new international markets via the Internet within the next two years*. The questions in relation to international technology-related risk-taking propensity can be seen in Appendix 1.

Two firms (Ss009, Sm010), as shown in column (A) of Table 4.7 below, viewed international technology-related risk-taking propensity to be ‘very strongly important’. Two firms (Gm005, Ss008) indicated ‘strong importance’, while a further three firms (Gm004, Gm006, Sm012) indicated ‘moderate importance’; ‘limited importance’ of international technology-related risk-taking propensity was noted in five firms (Gs001, Gs002, Gs003, Ss007, Sm011). Nine cases (Gs001, Gs002, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm012), as shown in column (B), indicated the ability of the firm to commit resources to Internet-mediated projects where the risk of failure was moderate. Taking risks to try new Internet technologies was noted by two firms in this research (Ss009, Sm010), as shown in column (C). Similarly, pursuing risky new initiatives in highly dynamic Internet environments was identified in Cases Ss009 and Sm010, in column (D).

An analysis of risk-taking in firms indicates that very high levels of international technology-related risk-taking propensity, as shown in column (E), was noted in Cases Ss009 and Sm010. Moderate levels of risk was noted in four firms (Gm004, Gm005, Ss008, Sm012), while low risk-taking behaviour in international business decision-making processes was identified in six out of the 12 firms in this study (Gs001, Gs002, Gs003, Gm006, Ss007, Sm011).

Table 4.7 Levels of international technology-related risk-taking propensity

	Type of risk-taking explicit in firm processes in an Internet-based environment				Descriptive comment	Level of international risk-taking propensity
	A	B	C	D			E
Case	Level of importance of risk-taking propensity	Commits resources to Internet-mediated projects where there is a risk of failure	Takes risk to try new Internet technologies	Pursues risky new initiatives in highly dynamic Internet environments		
Case Gs001	LI	✓	-	-	Does not indicate risk in making internationalisation decisions. The Internet is merely seen as a tool for communication.	Low
Case Gs002	LI	✓	-	-	Commits resources to improvement of the website, for example SEO functions, but is not actively taking risk in online environments.	Low
Case Gs003	LI	-	-	-	Risk-averse to Internet use for international market growth and performance outcomes. Limited resources for digital processes.	Low
Case Gm004	MI	✓	-	-	Risk-taking in developing new international partnerships in an online space. Takes risk in investing considerable amounts in online projects.	Moderate
Case Gm005	SI	✓	-	-	Takes high risks in offline environments, but in an online space taking risk and making investment are not priorities of this firm.	Moderate
Case Gm006	MI	✓	-	-	Indicates low risk-taking propensity in an online environment. Pursues new initiatives with an online trade publication/magazine.	Low
Case Ss007	LI	-	-	-	No indication of risk-taking in an Internet space. Resource commitment limited to domestic offline marketing activities.	Low
Case Ss008	SI	✓	-	-	New product development and risk evident in the use of the Internet as the primary platform for B-to-C communication with the client base.	Moderate
Case Ss009	VSI	✓	✓	✓	<i>High risk-taking levels evident in the development of software used industry-wide. High resource level commitment to the product.</i>	<i>Very High High-tech</i>
Case Sm010	VSI	✓	✓	✓	<i>Developed costly online/booking reservation system – ‘one-stop-shop’ for clients. The Internet is the only touch point for clients.</i>	<i>Very High High-tech</i>
Case Sm011	LI	-	-	-	Firm activities indicate very minimal levels of risk-taking in online environments. Portable Internet scanners are the extent to which technology is adopted.	Low
Case Sm012	MI	✓	-	-	Uses the Internet to target countries of close proximity to the home market. Commits large amounts of resources to online functions and software for the business.	Moderate
Aggregate		9/12	2/12	2/12		

Note. VSI = Very strong importance, SI = Strong importance, MI= Moderate importance, LI = Limited importance, tick represents ‘use’, dashed line (-) = Non-use, bold and italicised font = Indicates very high levels of international technology-related risk-taking propensity, High-tech indicates the firm in primarily exists in an online space.

Evaluation of international technology-related risk-taking propensity

The data identifies one key factor in relation to how international technology-related risk-taking propensity can positively influence firm performance: *(1) Commitment of resources to Internet-mediated projects where the risk of failure is moderate.*

(1) Commitment of resources to Internet-mediated projects where the risk of failure is moderate

Nine out of the 12 firms interviewed (Gs001, Gs002, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm012) demonstrated the ability to commit resources to Internet-mediated projects where there is an evident risk of failure (see Table 4.7). For example, Case Ss009 (plug-and-play software), suggested that investing large amounts of capital into designing and developing jewellery management software programs for the US market specifically was a large risk. For example, the founder and managing director of Case Ss009 stated: *'I'm thinking the US is definitely our market, it turns out Canada – even though it is a fraction of the size of the US. It's just because they're more willing to do online business, and don't expect you to be down the road. So by us coming in with a model saying well we're not down the road – it didn't work. We invested a lot and lost a lot in the US.'* The case evidence also suggests that committing resources to Internet projects with a risk of failure is an opportunity-seeking activity. For instance, Case Sm012 (food and beverage provider) developed a website platform to cater to the interest the business had received in the Chinese market. The co-founder and manager of Case Sm012 said that: *'Everything is risky because you're dealing with people who don't speak your language...I developed a site for the Chinese market because we have huge interest in this market. I also believe we will expand into China at a quicker rate than any other market, so I don't mind spending the time and money to advance technologies in this aspect.'*

Case Ss009 has also invested and committed a high level of resources to the development of software programs and customer relationship management systems, which have revolutionised the operating environment in which these SMEs compete. For instance, Case Ss009 (plug-and-play software) spoke of the business's commitment of resources, both financial and human, to re-develop a product for the online market: *'...we went*

purely web-based before anyone had understood the concept of cloud...we were redeveloping a product that was selling really well...the risk wasn't financial in a sense...the risk was, well what if we do all this and we're in the exact same position as what we were before and I've just wasted \$1 million in development... Similarly, Case Sm010 (NZ travel provider) indicated that the business has faced several risks due to the online nature of selling travel purely in an online space. For example, *'...one of the biggest risks that we have as a business is that we rely on our distribution system all in an online fashion, which is travel agents... Our power is that we are specialists but it makes us vulnerable. We have invested millions into our booking engine...'* Case Sm010 also stated that the business was currently developing a 'direct to the public site', where clients themselves could gather information, book and pay for New Zealand travel in essentially one 'click'.

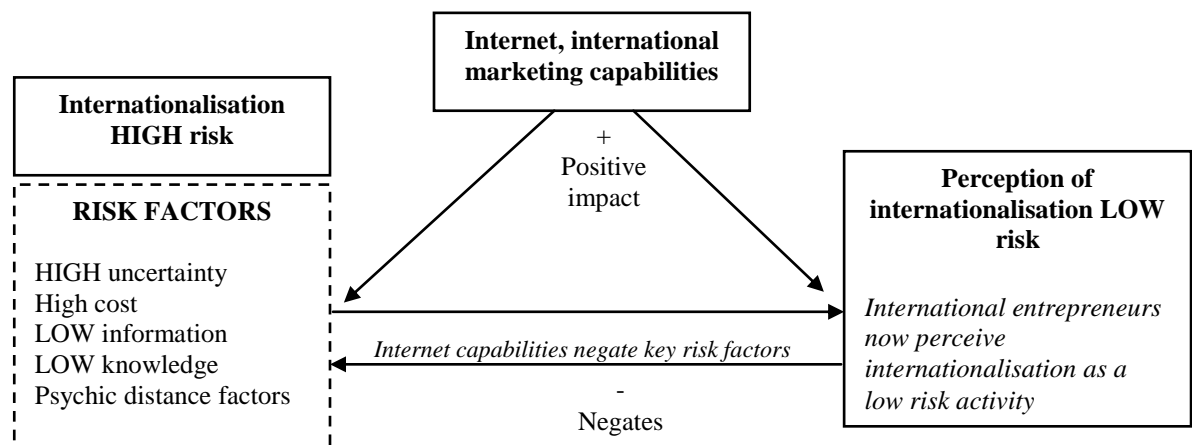
Types of risk not identified

The types of international technology-related risk-taking propensities not found to be important for the cases in this research are: *taking risks to try new Internet technologies*, and *pursuing risky new initiatives in highly dynamic Internet environments*. It can be seen in Table 4.7 that two firms (Ss009, Sm010) take risks within the firm and the industry to try out new and untried Internet technologies. Both firms pursue risky new initiatives in highly dynamic Internet environments. Both Cases Ss009 and Sm010 are indicative of highly complex, high-technology pure.com firms, but are outliers when compared with the cases presented in Table 4.7. However, it can be said that these types of risk may be more important for pure.com firms internationally. The previous literature (Calof, 1993; Westhead et al., 2001; Ruzzier et al., 2006) also states that size can have an impact on the firm's decision to internationalise, given that SMEs are unique in that they face risks, typically because of their size, as well as their process of learning. The findings of this research indicate, however, that size of the firm has no influence on the firm's international risk-taking propensity, but rather the level of 'perceived' risk is the operating environment is the critical factor which influences the firm's overall international business decisions.

Overall discussion: International technology-related risk-taking propensity

The findings from the data show that: (1) *commitment of resources to Internet-mediated projects where the risk of failure is moderate* was most frequently highlighted by case firms as an important component of international technology-related risk-taking propensity in an online environment. It has been suggested that the Internet can also assist in reducing the perceived risk associated with strategic decisions in the internationalisation of the firm, considering that the internationalisation processes of the firm are often complex with a high degree of risk in failure (Mathews & Healy, 2007). The findings of this research indicate that while the Internet has had an impact on reducing risk in internationalisation, it has now created a perception in which international entrepreneurial managers now view internationalisation as a low-risk business practice. This is because the Internet has negated the traditional barriers faced by firms in the internationalisation process. Figure 4.4 shows that Internet, international marketing capabilities have had a positive effect on lowering the perceived risk in internationalisation and negate key risk factors such as high uncertainty and costs, low information and knowledge and the presence of psychic distance factors.

Figure 4.4 Relationship between the Internet and perceived risk reduction



Note. Figure 4.4 shows that Internet, international marketing capabilities have a positive impact on the internationalisation of the firm, lowering the risk factors and barriers to internationalisation. As such, international entrepreneurs now perceive internationalisation as a low risk activity, limiting the risk factors. Thus the nature of internationalisation in this new digital age has changed.

4.3.4 Firm-level resource 4: Technology-related international vision

The next concept to be addressed is technology-related international vision. All firms were asked to comment on the following: (i) *whether the firm intended to target any new international markets within the next two years*, (ii) *if the firm aspired to increase the number of international customers and if the Internet would play a role in this process*; and, (iii) *where the international entrepreneur envisaged the firm to be in five years' time*. The questions in relation to technology-related international vision can be seen in Appendix 1.

One firm (Ss009), as shown in column (A) of Table 4.8, viewed innovation to be 'very strongly important'. Six firms (Gs001, Gm004, Gm006, Ss007, Ss008, Sm010) indicated 'moderate importance', while a further five firms (Gs001, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm011), indicated 'limited importance' of international technology-related vision. Three firms in this research (Ss009, Sm010, Sm012) denote that the business had encompassed an international and technologically focused mindset from the firm's inception, as noted in column (B). The firm's ability to envision future international business through the Internet, as shown in column (C) was noted in five firms (Gm005, Gm006, Ss009, Sm010, Sm012). A further three firms (Gm005, Gm006, Sm012), as shown in column (D), state that the firm's mission statement is geared towards international outcomes. Procuring the best resources at the least expense in an online environment, as shown in column (E), was also noted in 11 firms in this research (Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm011, Sm012). A further 10 firms (Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm012) highlighted that the firm aspires to increase the number of international customers as seen in column (F).

The level of innovation, as noted in column (G), shows very high levels in five firms (Gm005, Gm006, Ss009, Sm010, Sm012), high levels in four firms (see, Gs001, Gs002, Gs003, Gm004), moderate levels in one firm (Ss008), and low levels in a further two firms (Ss007, Sm011).

Table 4.8 Levels of technology-related international vision

	Type of technology-related international vision explicit within the firm						G	
	A	B	C	D	E	F		
Case	Level of importance of international vision	Encompasses an international and technological mindset from the outset	The ability to envision international business / Internet expansion in the future	The business' s mission statement is geared towards international outcomes	Procuring the best resources at the least expense in an online environment	The business aspires to grow international customers in an Internet environment	Descriptive comment	Level of technology-related international vision
Case Gs001	MI	-	-	-	✓	✓	Maintains a strong focus on customers in international markets although was not international initially.	High
Case Gs002	LI	-	-	-	✓	✓	Maintains an international vision through Internet technologies rather than in an offline space.	High
Case Gs003	LI	-	-	-	✓	✓	Envisions the international customer database to grow through the Internet, specifically throughout the US.	High
Case Gm004	MI	-	-	-	✓	✓	International vision in this firm is the key link to aggressive international opportunity seeking.	High
<i>Case Gm005</i>	<i>LI</i>	-	✓	✓	✓	✓	<i>International vision is represented in the leadership aspirations and formal titles of management.</i>	Very High
<i>Case Gm006</i>	<i>MI</i>	-	✓	✓	✓	✓	<i>The focus of the business is on exporting, the development of international resources.</i>	Very High
Case Ss007	MI	-	-	-	-	-	Indicates non-existent levels of international vision, remains domestic	Low
Case Ss008	MI	-	-	-	✓	✓	Maintains a focus on providing clients with the best deals sourced by management. Aims invest more in the Internet.	Moderate
<i>Case Ss009</i>	<i>SI</i>	✓	✓	-	✓	✓	<i>Management views the world as their market rather than specific segments. Highly visionary founder.</i>	Very High
<i>Case Sm010</i>	<i>MI</i>	✓	✓	-	✓	✓	<i>Envisions international opportunity and capitalises on market deficiencies to be achieve international success.</i>	Very High
Case Sm011	LI	-	-	-	✓	-	Primarily a domestic firm with some international customers but does not aspire to grow international clients.	Low
<i>Case Sm012</i>	<i>LI</i>	✓	✓	✓	✓	✓	<i>Allocates beyond sufficient human and financial resources to achieving international outcomes.</i>	Very High
Aggregate		3/12	5/12	3/12	11/12	10/12		

Note. SI = Strong importance, MI= Moderate importance, LI = Limited importance, tick represents 'use', dashed line (-) = Non-use, bold and italicised font = Indicates very high levels of international technology-related vision.

Evaluation of technology-related international vision

Two key factors have been identified from the data in relation to how international technology-related proactiveness influences firm performance: (1) *Procuring the best resources at the least expense in an online environment*, and (2) *Aspirations of business growth through Internet-based platforms*.

*(1) Procuring the best resources at the least expense in an online environment
(efficiency seeking)*

Procuring the best resources at the least expense was highlighted as being important in 11 out of the 12 firms (Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm011, Sm012). For example, Case Gm006 (labelling and promotional merchandise) said: *'I've always had the belief that if you run a tight ship in the good times then in the bad times you don't have to adjust your business to compensate for a downturn. So, from the get-go we've always had a very tight ship and run a low-overhead operation, sourcing our products from China, which has made us very cash positive.'* Overall, the findings of this section on technology-related international vision indicate that international entrepreneurs (six in total) from the goods industry (Gs001, Gs002, Gs003, Gm004, Gm005, Gm006) show higher levels of technology-related international vision, as opposed to the three firms within the services industry (Ss009, Sm101, Sm012).

(2) Actively seeks to grow the business through Internet-based platforms (growth seeking)

A total of 10 firms (Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm011, Sm012) affirmed that aspiring to increase the firm's number of international customers through Internet-based platforms was the primary goal of the business. For instance, Case Gm005 (coffee roasting business) said that that business was looking to implement new Internet platforms within the firm to secure new business opportunities within the Indian market: *'India is big on the Internet, so we will probably invest more. Have we done a lot of work on it? No. But we envision international growth throughout India and China. We will not invest in the Internet in China as it too*

complicated. They shut down Google over there. Aspirations for international growth via Internet platforms was also noted in Case Gm006 (labelling and promotional merchandise), which has invested significantly in Internet-based industry publications for international prospecting purposes. The CEO of Case Gm006 stated that, *'Successful projection of that message [brand message] is a significant driver of revenue. Our philosophy is YOUR BRAND IS OUR BUSINESS...we provide cost-effective designs and solutions to an impressively wide array of business sectors, via the Internet, ultimately we still want to grow.'* This international scope of the firm means that the business is constantly evaluating international market opportunities and is essentially open to business no matter where it exists in the world. Similarly, Case Sm012's (food and beverage provider) vision is *'To be a global leader in retail food, coffee and franchising'*.

The overall vision of business also indicates the position the international entrepreneur in wanting the business to occupy majority of the international market. Essentially, international vision in this instance is providing international entrepreneurs with a framework of where their business is going. For instance, Case Ss009 (plug-and-play software), stated that, *'We built it [the business] from the outset to go international because we are jewellery specific...that's our point of difference so we'll go worldwide. So yeah, we knew straight away that overseas was our solution.'* Being internationally focused, Case Ss009 looked for new opportunities within the industry to fill a niche market with a new product being – self-operational inventory management systems for the jewellery industry.

Types of technology-related international vision not identified

The findings from the data indicate that: (1) *encompassing an international and technological mindset from the outset, having the ability to envision increasing international business through the Internet*, and (2) *ensuring that the business's mission is geared towards international outcomes* are not essential components of international vision required for firms operating in an Internet environment. This is because the Internet has negated the need for traditional requirements, such as international vision, in the internationalisation process.

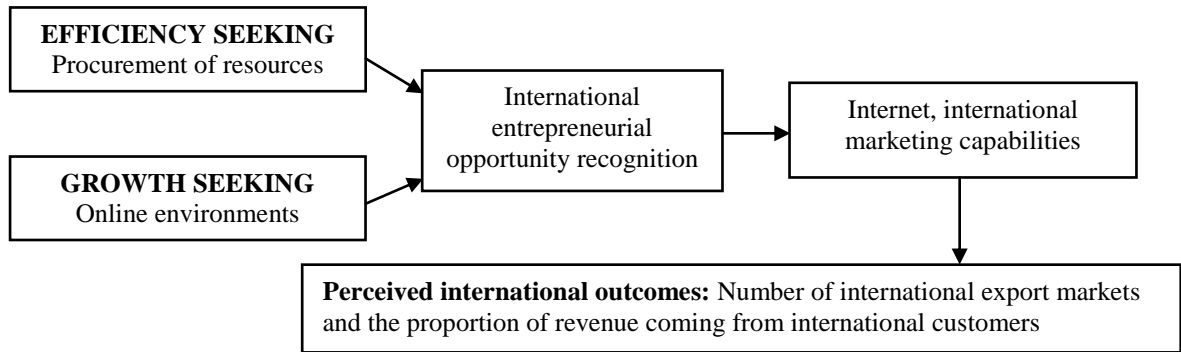
Overall discussion: Technology-related international vision

The findings from the data indicate two important components of technology-related international vision: (1) *procuring the best resources at the least expense in an online environment (efficiency seeking)*, and (2) *actively seeks to grow the business through Internet-based platforms (growth seeking)*. The findings indicate that the Internet is having an impact on international entrepreneurs' perceptions of the level and degree to which international vision is perceptible in business practice. Some scholars (see, Autio et al., 2000; Aspeland & Moen, 2004; Johnson, 2004; Andersson & Evangelista, 2006) suggest that managers with an international mindset and increased levels of international vision are more global in nature and tend to perform better than those firms without an international vision from business inception. For example, in a multi-method study of senior managers active in international markets, Knight (2001) found that entrepreneurial mind-set and vision was critical for firms in engaging in challenging activities associated with entering new international markets.

It has also been suggested that international vision is an important aspect of a firm's aggressive international opportunity-seeking behaviour (Autio et al., 2000). The findings of this study argue that the nature and the level of international vision require for a firm's successful Internet internationalisation have changed. That is, efficiency seeking in procuring resources and growth seeking in online environments are important components enabling international entrepreneurial opportunity recognition and exploitation in firms.

The Internet has also negated the need for high levels of the traditional components of international vision, such as the mission statement being geared towards international outcomes, because the nature of international business has changed. The Internet has negated the need for traditional requirements, such as international vision, in the internationalisation process. Figure 4.5 illustrates the finding that the international vision of the founder is important for both small- and medium-sized firms from both the goods and services sectors, suggesting that international vision is a key factor influencing international entrepreneurial SMEs operating in Internet environments.

Figure 4.5 Representation of the findings of technology-related international vision



Note. Figure 4.5 shows that the Internet has influenced the level of international vision in international entrepreneurial firms. The Internet has negated the need for high levels of international vision because the nature of international business has changed in an online context.

4.3.5 Firm-level resource 5: International business experience

The next concept to be examined is international business experience. All firms were asked about the following issues: (i) *the level of education attained by the international entrepreneur*, (ii) *previous international business experience where the manager had previously worked for an international firm*, (iii) *number of years' experience in the current industry*, (iv) *number of years' experience in the current firm*, and (v) *previous experience of working with the Internet*. These questions can be seen in Appendix 1.

One firm (Gm005), as shown in column (A) of Table 4.9, viewed international business experience through experiential knowledge related to Internet technology in international markets to be 'very strongly important'. One firm (Sm010) indicated 'strong importance', while a further ten firms (Gs001, Gs002, Gs003, Gm004, Gm006, Ss007, Ss008, Ss009, Sm011, Sm012), indicated the 'limited importance' of experiential knowledge. Five international entrepreneurs in this research (Gs001, Gm006, Ss007, Ss008, Sm012), as seen in column (B), achieved a certificate level qualification, while a further two managers (Ss007, Sm010), as seen in column (C), obtained a technical college/TAFE equivalent diploma. Three managers, as noted in column (D), were awarded Bachelor's Degrees (Gm005, Ss008, Ss009). International business experience of living abroad and working in another firm, as seen in column (E), was noted in one firm (Sm010). Seven managers (Gs001, Gs002, Gm005, Ss007, Ss008, Sm010, Sm012), as noted in column (F), indicated international business experience of working in another firm. International business experience of working in another international firm, as indicated in column (G), was seen in one firm (Sm010). High levels of international business experience, as seen in column (H), were seen in three firms (Gm005, Ss008, Sm010), and low levels in nine firms (Gs001, Gs002, Gs003, Gm004, Gm006, Ss007, Ss009, Sm011, Sm012).

Table 4.9 Levels of international business experience

	Types of international business experience identified							Descriptive comment	Level of international business experience
	A	B	C	D	E	F	G		
Case	Level of importance of international business experience	Achieved a certificate level qualification	Obtained a technical college/ TAFE equivalent diploma	Obtained a Bachelor's degree	International experience of living abroad and working in another firm	International experience of working in another firm	Experience of working in another firm on Internet-based projects		
Case Gs001	LI	✓	-	-	-	✓	-	23 years' experience in the naturopath industry but has never worked in an international firm.	Low
Case Gs002	LI	-	-	-	-	✓	-	Previous experience of working for a current substantial competitor. Case Gs002 left the business to start his own business, relying on the little knowledge he had gathered.	Low
Case Gs003	LI	-	-	-	-	-	-	'The power learning when you reach a roadblock...' Case Gs003 started working for the family business early with no degrees or formal qualifications.	Low
Case Gm004	LI	-	-	-	-	-	-	'Essentially learning as you go...' After seeing a commercial about jewellery making as a young boy, Case GM004 pursued his dream with no degrees or experience.	Low
Case Gm005	VSI	-	-	✓	-	✓	-	'Everything comes with experience...' Started out working in a competitor's company while studying for a business degree the left to pursue his goals.	High
Case Gm006	LI	✓	-	-	-	-	-	An entrepreneur who failed his HSC. With no University degree the founder started off as a hairdresser and started the current business out of his parents' back-yard shed.	Low
Case Ss007	LI	✓	✓	-	-	✓	-	Started in the business in 1986, and has extensive experience of working in similar firms, but no related international or technological experience in present.	Low
Case Ss008	LI	✓	-	✓	-	✓	-	Obtained a science degree before moving into the banking field. Has extensive experience working for other internationally focused firms.	High
Case Ss009	LI	-	-	✓	-	-	-	Completed two degrees before starting work in the family software business. Has no previous international business experience.	Low
Case Sm010	SI	-	✓	-	✓	✓	✓	'Having experience is critical...' The founder has worked in NZ, US and the UK previously.	High
Case Sm011	LI	-	-	-	-	-	-	Indicates no level of formal qualifications or international experience.	Low
Case Sm012	LI	✓	-	-	-	✓	-	Obtained a certificate in hair dressing prior to working in the current firm. Has no international experience.	Low
Aggregate		5/12	2/12	3/12	1/12	7/12	1/12		

Note. VSI = Very strong importance, SI = Strong importance, LI = Limited importance, tick represents 'use', dashed line (-) = Non-use.

Evaluation of international business experience

The findings from the data indicate that: (1) *International experience of working in another firm* is an important factor in influencing the firm's international market performance.

(1) International experience of working in another firm

International business experience of working in another firm, *but not living abroad*, was identified in seven out of the 12 cases in this research (Gs001, Gs002, Gm005, Ss007, Ss008, Sm010, Sm012). It was noted that this type of international exposure from previous employment had provided international entrepreneurs with the resources and knowledge to be successful in the current firm. For instance, Case Sm010 (NZ travel provider) stated that his experience of working in another firm in New Zealand provided the skills he required to succeed in his current business venture: *'...experience is critical. Having developed projects in the US and NZ markets has allowed me to use what I've learnt – good and bad – to give everything my best shot at this business. Previous experience is important, but experience and being open to experience as you go is more important.'* Similarly, Case Gm005 (coffee roasting business), said that business experience is an important quality: *'Everything comes with experience. The one thing that I can't substitute for, and I say this to everyone, I cannot give you business experience... You learn more from what people do wrong and learn less from people that do things right.'*

Types of international business experience not identified

Achieving a certificate level qualification or technical college diploma; obtaining a Bachelor's Degree; international experience of living abroad and working in another firm; and experience of working in another firm on Internet-mediated projects are not essential components of experiential knowledge related to Internet technology and international markets. One entrepreneur, (Sm010), had gained international experience of living abroad and working in another firm. Similarly, Case Sm010 also indicated previous experience of working in another firm on Internet-based projects. This is not an

unforeseen finding, however, as the Internet has only evolved into an important international business tool within the last decade. Therefore, learning and experience with Internet-based projects is only starting to take place.

The literature (see, Baruch, 1997) often states that higher education, such as obtaining a bachelor's degree, is a characteristic of successful high technology-mediated entrepreneurs. Scholars (see, Bloodgood, Sapienza, & Almeida, 1996; Cavusgil, 1984; Reid, 1980) have also suggested a link between higher education, international experience and greater international openness. The findings indicate, however, that out of 12 international entrepreneurs, only three (see, Gm005, Ss008, Ss009) had obtained a university-level qualification such as an undergraduate bachelor's degree. Case Gm005 (coffee roasting business) spoke of his bachelor's degree merely as a 'tool': '*...Entrepreneur is way of life. So, tools, I go to university, I get basic tools to use. So I do an undergraduate degree... All university can do for me is improve my tool. My tool gets better but I don't have experience...*' Although, obtaining a bachelor's degree seems to be important in the international success of Case Gmn005, the findings indicate that certificate and diploma courses are more important in SMEs, and seem to matter more than university degrees; although these courses do not influence the firm's progression into international markets.

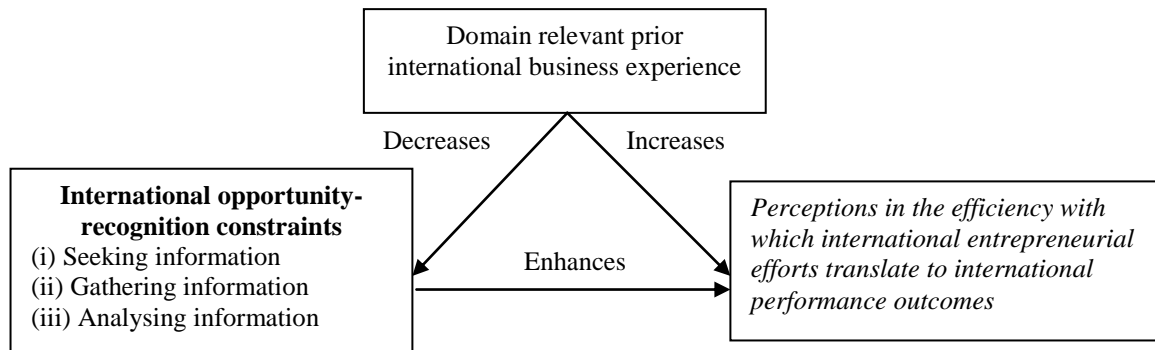
Overall discussion of international business experience

The findings of the data indicate that: (1) *international experience of working in another firm* was the most important form of international business experience. The findings of the data also indicate a lack of specialised education in Internet technology and international markets. This means that the lack of formal qualifications, such as certificate, technical college/TAFE equivalent and bachelor's degrees, has meant that explicit knowledge and skills are not acquired which could be useful to international entrepreneurs. One explanation or key reason for this finding may be the lag in Internet-related programs in the pre-Internet era, prior to the dot.com boom, leading to a lack of knowledge in this space. The findings of the data indicate, however, that the formal qualifications of international entrepreneurs have not influenced the international performance of the firms in this research.

The findings of this study can be contrasted with the findings of Wiklund and Shepherd (2003) that growth aspirations are higher for entrepreneurs with higher levels of education and experience. The findings of this study concur with the argument that growth occurs at a faster rate and more efficiently in firms with higher levels of prior international business experience, but is not correlated with the formal qualifications of international entrepreneurs. Overall, it can be seen that prior international experience of international entrepreneurs is a critical component of the international entrepreneur's human capital, and is important for internationalisation in an online environment. The Internet allows for addressing customer needs regardless of geographic proximity, yet the findings indicate overall that the successful exploitation of these new international market opportunities necessitates the need for learning experience in an online context.

The findings of the data show that international entrepreneurs are learning to successfully grow their businesses internationally by working in, and initiating, new international business through learning and through previous experience in international business. It can be said that as international entrepreneurial learning takes place, the international business experience of the entrepreneur grows. The intellectual wealth accumulated by international entrepreneurs is allowing the wealth of experience to grow over time, enabling international entrepreneurs to better identify and exploit international online opportunities as a result of knowledge and experience development. The experiences gained by working in international firms domestically also aids in reducing international entrepreneurs' perceptions of risk and uncertainty, as shown in Figure 4.6, which ultimately influences the firm's internationalisation behaviours and performance, such as the proportion of revenue coming from international customers and the number of international export markets.

Figure 4.6 International business experience, opportunity recognition and international outcomes



Note. Figure 4.6 indicates that prior international experience relevant to the current industry reduces the constraints associated with international opportunity seeking in an international online environment, thus increasing the perception that the firm will be achieve successful international market performance.

4.3.6 Capability 1: Internet, international marketing capabilities

The first firm-level capability to be discussed is Internet, international marketing capabilities. To address Internet, international marketing capabilities all firms were asked: (i) to indicate which Internet-based technology mediums the firm is currently using, (ii) the extent to which the Internet is generating international awareness for the firm, and (iii) whether the firm places a strong importance on technological leadership. The questions in relation to Internet, international marketing capabilities can be seen in Appendix 1.

Six firms, (Gs001, Gs002, Gs003, Ss007, Ss008, Ss009), as shown in column (A) of Table 4.10, viewed Internet, international marketing capabilities overall to be ‘very strongly important’. Five firms (Gm004, Gm005, Gm006, Sm010, Sm012) indicated ‘moderate importance’, while only one firm (Sm011) indicated ‘limited importance.’ All 12 firms indicated that the firm uses email applications, column (B), and has an official company website, column (C). Use of the Internet for marketing and advertising purposes, as seen in column (D), was noted in 11 firms (Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss007, Ss008, Ss009, Sm010, Sm012). Nine firms (Gs001, Gs002, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm011), as seen in column (E), used the Internet as a platform for online sales, while eight firms (Gs002, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm011), as seen in column (F), provided after-sales service via the Internet. Use of the Internet for market research purposes, as seen in column (G), was identified in seven firms (Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm012), while identification of international competitors on the Internet, as seen in column (H), was seen in only three firms (Gm005, Ss009, Sm010).

All 12 firms participating in this research indicated the very strong importance of the following Internet-related marketing capabilities: email applications (column B) (i), and an official company website (column C) (i). Seven firms indicated the very strong importance of Internet marketing and advertising (column D) (i): Gs002, Gm004, Gm005, Gm006, Ss008, Ss009, Sm012) and seven firms indicated the very strong importance of online sales (column E) (i): Gs001, Gs002, Gm005, Gm006, Ss008, Ss009, Sm010). Use

of the Internet for after sales service was identified as being very strongly important in five firms (column F) (i): Gs002, Gm005, Gm006, Ss009, Sm010), for market research purposes in two firms (column G) (i): Gm006, Sm012), and to identify international competitors in three firms (column H) (i): Gm004, Ss009, Sm010). Very high levels of Internet use and integration was present in four firms (column I: Gm004, Gm005, Ss009, Sm010), high levels in two firms (Gm006, Sm012), moderate levels in four firms (see, Gs001, Gs002, Gs003, Sm011), and low levels of Internet use and integration in only one firm (Ss007).

Table 4.10 Internet usage and Internet, international marketing capabilities

	Level of importance								Use or non-use of Internet-related technologies <i>LOW</i> ◀ Internet intensity levels ▶ <i>HIGH</i>								Level of Internet integration & comment
	A	B	C	D	E	F	G	H	B(i)	C(i)	D(i)	E(i)	F(i)	G(i)	H(i)	I	
	Level of importance overall	Email	Website	Marketing & advertising	Online sales	After sales service	Market research	Identify international competitors	Email	Website	Marketing & advertising	Online sales	After sales service	Market research	Identify international competitors		
Case Gs001	VSI	✓	✓	✓	✓	-	-	-	VSI	VSI	SI	VSI	SI	MI	NI	MODERATE Total dependency on email, website and online sales functions.	
Case Gs002	VSI	✓	✓	✓	✓	✓	-	-	VSI	VSI	VSI	VSI	VSI	SI	SI	MODERATE Heavy dependency on email, website and online marketing.	
Case Gs003	VSI	✓	✓	✓	-	-	-	-	VSI	VSI	MI	NI	NI	LI	NI	MODERATE Limited Internet use. Only email and website functions used.	
Case Gm004	MI	✓	✓	✓	✓	✓	✓	-	VSI	VSI	VSI	SI	SI	SI	VSI	VERY HIGH Dependent on the Internet and software management systems.	
Case Gm005	MI	✓	✓	✓	✓	✓	✓	✓	VSI	VSI	VSI	VSI	VSI	SI	NI	VERY HIGH Sophisticated website, personalisation through online sales.	
Case Gm006	MI	✓	✓	✓	✓	✓	✓	-	VSI	VSI	VSI	VSI	VSI	VSI	SI	HIGH Heavy use of the Internet for international market management.	
Case Ss007	VSI	✓	✓	✓	-	-	-	-	VSI	VSI	NI	MI	NI	MI	NI	LOW Minimal use of the Internet. Limited to email and a website.	
Case Ss008	VSI	✓	✓	✓	✓	✓	✓	-	VSI	VSI	VSI	VSI	SI	SI	NI	HIGH Gains exposure from the website. Heavy use of online marketing.	
Case Ss009	VSI	✓	✓	✓	✓	✓	✓	✓	VSI	VSI	VSI	VSI	VSI	SI	VSI	VERY HIGH Total dependency of Internet technologies. Pure.com firm.	
Case Sm010	MI	✓	✓	✓	✓	✓	✓	✓	VSI	VSI	SI	VSI	VSI	MI	VSI	VERY HIGH Total dependency on Internet technologies. Pure.com firm.	
Case Sm011	LI	✓	✓	-	✓	✓	-	-	VSI	VSI	MI	MI	MI	NI	NI	MODERATE Limited integration of the Internet. Email and website functions only.	
Case Sm012	MI	✓	✓	✓	-	-	✓	-	VSI	VSI	VSI	LI	NI	VSI	NI	HIGH Moderate Internet use. Important for online marketing.	
<i>Aggregate</i>		12	12	11	9	8	7	3									

Note. VSI = Very strong importance, SI = Strong importance, MI= Moderate importance, LI = Limited importance, NI = No importance, i = Importance, tick represents 'use', dashed line (-) = Non-use, bold and italicised font = Indicates very high levels of Internet usage and Internet, international marketing capabilities.

Evaluation of Internet, international marketing capabilities

Three key findings from the data were identified in relation to how Internet, international marketing capabilities influence firm performance: (1) *The use of email and company websites*, (2) *Marketing and advertising capabilities*, (3) *The Internet as an online sales mechanism*, (4) *After sale service*, and (5) *Market research capabilities*. These key findings will be discussed next.

(1) The use of email and official company websites

The findings from the data indicate that email remains the primary mechanism used by businesses to facilitate international market transactions and to maintain customer and distributor relationships. This is not surprising given the vast geographical distances between firms and their export markets within this research. For example, Case Gs001 (health and wellbeing services), as seen in Table 4.11, explained that, *'...quite simply, my business wouldn't run without email. It's my primary source for communication with my suppliers and also distributors.'* Email has also been used by clients as a check-out system where purchase orders are made. For example, one quote shows that Case Gs002 (textiles wholesaler) often had clients who used Email to place orders; *'Most orders we handle are so large – wholesale, that customers don't use our check-out system. Instead they email us...'* The official company website has also been identified as an important component in the internationalisation of the firm.

In international markets, the official company website is an important tool that international customers use to evaluate a purchase via the Internet. For example, Case Gm004 (Jeweller) explains that the company website is an important part of the business, enabling communication with customers across international markets: *'...Email and our website assists to reaffirm what we do... We receive many letters of gratitude from our website. I guess our website also appeals to customers much further away. Who thought we would be creating custom pieces of jewellery for our client in Russia...'* Disintermediation of information was also identified in firms which had a website and online sales system. For example, Case Sm010 (NZ travel provider) explained the concept of disintermediation: *'Our customers can do everything on our website. Look for*

relevant NZ information as well as book tours, accommodation and flights. There is no middle man. Our website is the between buyer and seller. That's because we have spent millions developing, not leasing our own software.' The supporting quotes for the use of Email and websites within firms can be seen in Table 4.11.

Table 4.11 Supporting quotations for the use of email and websites

Case code	Email (E) and Websites (W) in firms indicating 'very strong' importance
Case Gs001	<p>Uses email frequently and runs two website landing pages with a third in development to cater for different regions</p> <p>E: '...Quite simply... My business wouldn't run without email. It's my primary source for communication with my suppliers and also distributors.'</p> <p>W: '... I've been creating another website landing page, demand is just so big – one that is multi-lingual. I can run my business from anywhere in the world because I've got my mobile phone and my laptop, it's very cool...'</p>
Case Gs002	<p>Email becomes one of the most important aspects of the business combined with the website landing page</p> <p>E: 'Most orders we handle are so large – wholesale, that customers don't use our check-out system. Instead they Email us...'</p> <p>W: 'We get told by almost everyone in the industry that we have by far the best website. And we've done it all ourselves...WE hired an IT guy and that's what he does. His job is to work at making that aspect of the business consistently better.'</p>
Case Gs003	<p>Email and website are important functions of the business international reach to the US market</p> <p>E: 'Are there any businesses these days that aren't using the email? We couldn't survive without it. It's as simple as that really.'</p> <p>W: '...our website is important to us because it allows us to connect with customers in the US. They can actually see the quality of the products we are offering...'</p>
Case Gm004	<p>The company website assists in international market development in geography distant countries</p> <p>W: '...email and our website assists to reaffirm what we do... We receive many letters of gratitude from our website. I guess our website also appeals to customers much further away. Who thought we would be creating custom pieces of jewellery for our client in Russia...'</p>
Case Gm005	<p>The website ensures customer focus by guaranteeing receipt of goods if orders are placed before 9am</p> <p>W: '...you know our website is fantastic? Our coffee website is one of (if not) the best in the country. We deliver to some of the biggest offices in the country... order before 9am will be delivered to you on the same day...'</p>
Case Gm006	<p>The website has assisted the business in securing corporate clients worldwide</p> <p>W: '...online search engines and optimisation play a big part in our business. We have an online ordering system and a website landing pages that has helped us land some very big contacts in relation to corporate divisions all over the globe.'</p>
Case Ss007	<p>Email is more important than the company website as traditional networks followed up by emails are often used</p> <p>E: 'Companies always contact us more by email now. So it's more important for my business now than it ever used to be...'</p> <p>W: 'We have a company website but it's not generating a lot of traffic just as yet...'</p>
Case Ss008	<p>Email and website functions are critical to the business's growth. Cloud technology is also be utilised</p> <p>E: 'Email is defiantly important. Developers contact us regularly through Email. Particularly international interest if we have it too.'</p> <p>W: '...my website is my most important touch-point with my customers. We actually have a Cloud that backs up our website- it's our resource centre...'</p>
Case Ss009	<p>Email and website are critical to the functioning of this firm being a pure.com</p> <p>E: 'Because we are essentially a purely online firm, our customers will either email or call us. We have a</p>

Case code	Email (E) and Websites (W) in firms indicating 'very strong' importance
	<i>guarantee to our customers to get back to all their queries within one working day.'</i> <i>W: 'We have interest from all over the world with our website. It's a sole mechanism between us and our clients.'</i>
Case Sm010	Has invested considerable amounts of time and money into a reservation system on the company's website <i>W: 'Our customers can do everything on our website. Look for relevant NZ information as well as book tours, accommodation and flights. There is no middle man. Our website is the between buyer and seller. That's because we have spent millions developing, not leasing our own software.'</i>
Case Sm011	Recognises the importance of online websites and places to invest more into the development of the website for online traffic <i>W: 'Our website is important, we do get new clients from there often, but we don't have as much online demand as what we thought we would...'</i>
Case Sm012	The website is particularly important for the international market rather than domestically <i>W: 'The Internet, email, websites, Facebook and all that stuff is very important. We are now franchising and who would think we have interest in the Egyptian market. The website is defiantly more important for international scope than in Australia.'</i>

(2) Marketing and advertising capabilities

The Internet as a medium for marketing and advertising purposes was identified as an important Internet marketing capability. The most common method of marketing and advertising for firms in this research was the use of third party websites. For example, Case Sm010 (NZ travel provider) used third party websites such as Tourism New Zealand and Tourism Queensland to promote travel packages and generate new business. Third party websites have become important for Case Sm010, who deals directly with the public. The use of third party websites in this case has created access to a new wide customer base, previously not feasible without the Internet. For instance, Case Sm012 (food and beverage provider) describes the role of the Internet in creating international brand recognition: *'The Internet can have the ability to get any brand known worldwide. Who in their right mind would have thought that we would get an expression of interest from someone in Egypt that hasn't even been to Australia. Yet they know about the brand, they know everything about us. The Internet has made the world a smaller place. And everybody's knowledge hungry.'* Some firms also used information collected from customer data collected at point of purchase and in after sales service to generate emails, newsletters and direct marketing campaigns targeted towards the repeat customer database. This form of database marketing was utilised in nine firms in this research (Gs001, Gs002, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm012). For example, Case Gm005 (coffee roasting business) has developed a website to cater to wholesale

coffee buyers. Marketing campaigns are then targeted to each unique cafe, restaurant or corporate office making the online coffee bean purchase.

(3) The Internet as an online sales mechanism

The Internet as an online sales mechanism was being utilised in nine firms in this research (Gs001, Gs002, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm011). For example, digitalisation within Case Gs002 is being used to support the international aspirations of the company through the recent development of an online store selling direct to wholesalers and consumers in New Zealand and Fiji. Other firms, such as CaseSm010 (NZ travel provider), demonstrated highly innovative behaviour through the integration of new Internet technologies, such as Internet-mediated customer relationship management systems, and the development of software solutions to optimise business processes to support the international business vision of the firm. Case Sm010 (NZ travel provider) stated that, '*...The first, key creation that we've been working on forever since I've been here, is a booking engine, which manages all your complete itinerary items.*' The booking and reservation system was also effective in generating databases for the use of after sales service and support.

(4) After sales service

The use of the Internet for after sales service and support was identified in eight out of the 12 firms (Gm002, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm011). For example, Case Ss009 (plug-and-play software), have an integrated support system built into the businesses website: '*...if customers cannot find a solution to a problem within our knowledge base, clients are welcome to submit tickets, to which we will respond to within 24 hours. Customers can also view existing tickets. All of our support is through web-based videos.*' Case Sm010 is also now famous for their online support services and training, including online chat, online support centres, phone and email support as well as live remote access 24-hour support. Timely support was also noted in Case Sm010 (NZ travel provider): '*We provide support to our customers anywhere in the world. It's absolutely important.*'

(5) Market research

The use of the Internet for market research purposes was noted by seven firms (Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm012), which were predominantly medium-sized businesses. It has been suggested that the Internet can increase the firm's ability to access information about rivals and international market operating environments (Hamill & Gregory, 1997). The findings of this study show opportunistic motivations towards the adoption of the Internet for use in market research. For example, Case Sm012 (food and beverage provider) uses the Internet to gather firm and industry information to benchmark the business against key rivals. The findings suggest that the Internet can facilitate the process of market research gathering through efficient and timely access to information.

Types of Internet, international marketing capabilities not identified

Utilisation of the Internet to identify international market competitors was only noted in three firms in this research (Gm005, Ss009, Sm010). For example, Case Gm005 (coffee roasting business) stated that, *'It's about shaping behaviours. Coffee consumption in China is only just taking off. We have been at the forefront of changing this slowly. I use the Internet to search for, regularly, businesses that try to replicate what we are doing...'* Mostafa et al. (2006) suggest that the more international entrepreneurs are proactive towards identifying competitors, the better their firms performance will be. The current research findings suggest that use of the Internet for the identification of international competitors has limited impact on the firm's progression to internationalisation.

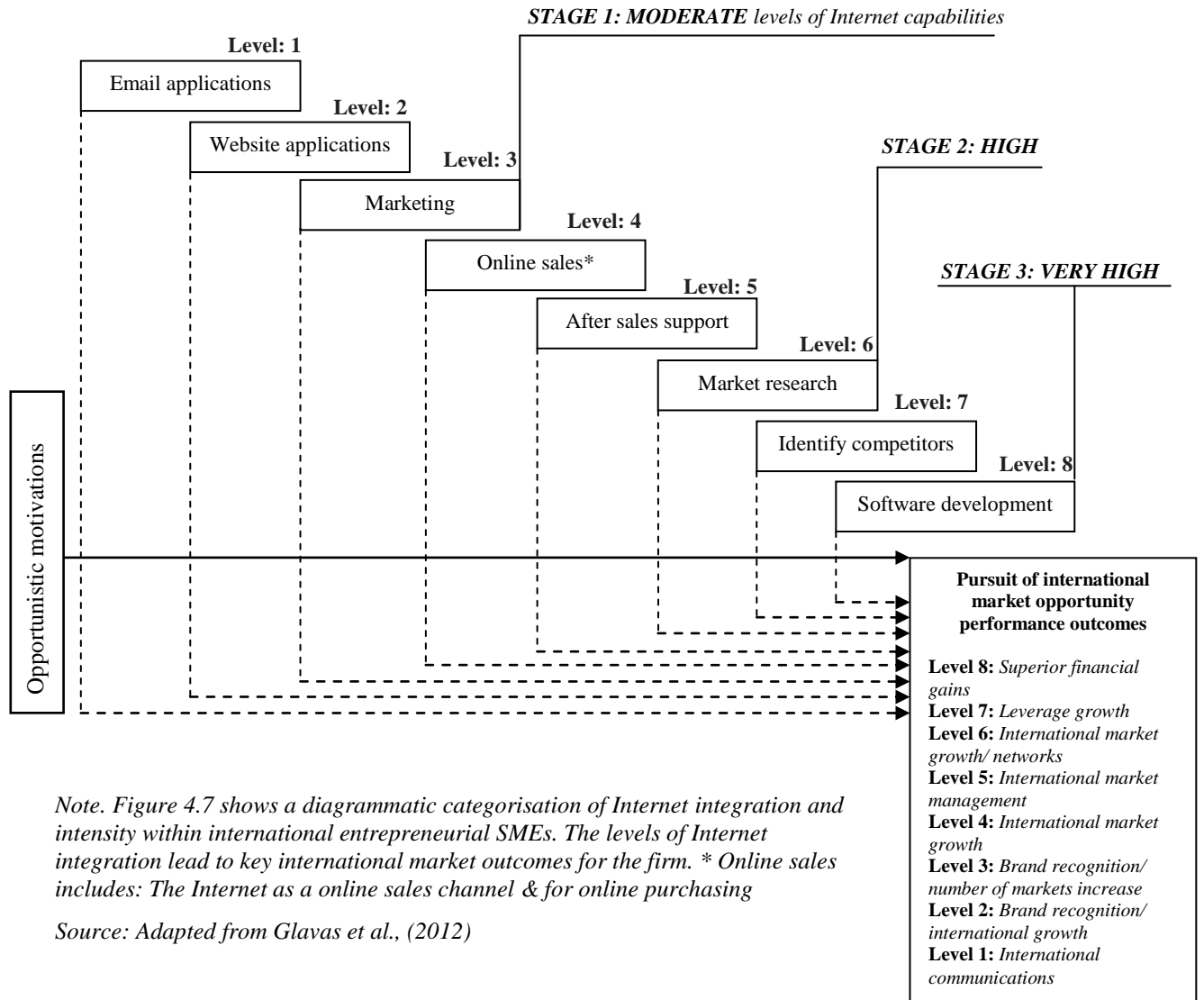
Overall discussion: Internet, international marketing capabilities

The findings from the data indicate that: (1) *the use of email and official company websites*, (2) *marketing and advertising capabilities*, (3) *the Internet as an online sales mechanism*, (4) *after sales service*, and (5) *market research capabilities*, are important components related to how international entrepreneurial firms are achieving successful Internet internationalisation. The findings from the data, as seen in Figure 4.7, show that intensity of Internet use in firms is facilitating international market expansion. Intensity of Internet use in firms is an important measure of the degree to which the firm integrates

Internet-related technological capabilities within international business operations (Glavas, Pike & Mathews, 2014b). While the importance of firm-level capabilities to IE was emphasised in the inception of IE as a field of inquiry (see, McDougall & Oviatt, 2003), Internet-mediated environments differ in that additional capabilities are vital. For instance, it has been suggested that the Internet has brought about a generation of computing that no longer includes simple email and website applications, but embraces innovation, close collaboration, co-creation, networking and creativity in the use of existing technologies to develop new and improved offerings (Bell & Loane, 2010).

Figure 4.7 shows an eight level approach to categorisation of the levels of Internet use within the firm. For example, Stage 1: Moderate level of Internet capability integration includes email and website use as well as using the Internet for marketing and advertising purposes. Stage 2: High levels of Internet capability integration are identified in firms using the Internet as an online sales channel for selling and purchasing goods and services, for after sales support and market research purposes. Stage 3: Very high of Internet integration is evident in firms utilising the Internet to identify foreign competitors and for software development purposes. The opportunistic motivations to achieve international market performance are also likely to increase with each Internet capability integrated within the firm's business activities. The model shows firms work towards performance outcomes by increased integration of the Internet. For example, Moderate levels of Internet integration: lead to international communications (level 1), brand recognition and international growth (level 2), and brand recognition and an increase in the number of international markets (level 3). High levels of Internet use are likely to lead to: international market growth (level 4), international market management (level 5), and international market growth plus an increase in the number of international networks (level 6). Very high levels of Internet use lead to the firm's ability to leverage growth (level 7), and to achieve superior financial gains (level 8). Exceptions to the model are likely to be identified; however Figure 4.7 shows how firms can leverage increased Internet capability integration.

Figure 4.7 Internet, international marketing capabilities of the firm and internationalisation



4.3.7 Capability 2: International virtual network capabilities

The next capability to be discussed is international virtual network capabilities. All firms were asked: (i) to describe the business's current relationships, (ii) to describe the Internet's impact on networking relationships, (iii) if the Internet had impacted the development and maintenance of networks, and (iv) if networking capabilities had influenced the international performance of the firm. The questions in relation to the formal networking capabilities can be seen in Appendix 1.

Four firms (Gm004, Gm005, Gm006, Sm010), as shown in column (A) of Table 4.12, viewed international virtual network capabilities overall to be 'very strongly important'. Six firms (Gs001, Gs002, Gs003, Ss008, Ss009, Sm012) indicated 'strong importance', while a further two firms (Ss007, Sm011) indicated 'moderate importance.' Developing relationships with suppliers online, as seen in column (B), was noted in 11 firms (Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss007, Ss009, Sm010, Sm011, Sm012). Similarly, developing relationships with distributors online, as seen in column (C), was noted in nine firms (Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss009, Sm010, Sm012). Creating ties with industry-specific competition, as shown in column (D), was seen in nine firms (Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010). Creating ties with customers online, as seen in column (E), was identified in eight firms (see, Gs002, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm012). Maintaining relationships with industry-relevant authorities, as shown in column (F), was evident in eight firms (Gs002, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm012). Paying for international networks was identified in five firms (column G: Gm004, Gm005, Gm006, Ss008, Sm010). Very high levels of international virtual network capabilities, as shown in column (H), are present in four firms (Gm004, Gm005, Gm006, Sm010), high levels in three firms (Gs002, Ss008, Ss009), moderate levels in three firms (Gs001, Gs003, Sm012), and low levels in two firms (Ss007, Sm011).

Table 4.12 Levels of international virtual network capabilities

	Type of international virtual network capabilities							H	
	A	B(d)	C(d)	D(d)	E(d)	F	G		
Case	Level of importance of networks	Develops relationships with suppliers online	Develops relationships with distributors online	Creates ties with industry-specific competition	Creates ties with customers online. For example, blogs	Maintains relationships with industry relevant authorities	Pays for international networks	Descriptive comment	Level of international virtual network capabilities
Case Gs001	SI	✓	✓	✓	-	-	-	Extensive use of online networks with industry associations in the same and competing industries.	Moderate
Case Gs002	SI	✓	✓	✓	✓	✓	-	Extensive use of online and offline domestic networks. Internationally is limited however.	High
Case Gs003	SI	✓	✓	✓	-	-	-	Maintains relevant formal network relationships, but still considers 'knock-on-door' business to be important.	Moderate
<i>Case Gm004</i>	<i>VSI</i>	✓	✓	✓	✓	✓	✓	<i>Pre-established networks have created opportunity for international expansion. Extensive use of online and offline networks.</i>	<i>Very High</i>
<i>Case Gm005</i>	<i>VSI</i>	✓	✓	✓	✓	✓	✓	<i>Creates industry networks and alliances to support business development domestically and internationally.</i>	<i>Very High</i>
<i>Case Gm006</i>	<i>VSI</i>	✓	✓	✓	✓	✓	✓	<i>Maintains network relationships between industry associates as well as between strategic alliances.</i>	<i>Very High</i>
Case Ss007	MI	✓	-	-	-	-	-	Indicates limited use of networking in an online environment. Traditional networks are more important.	Low
Case Ss008	SI	-	-	✓	✓	✓	✓	Utilised networks to raise capital for the business. Also, runs key business network seminars.	High
Case Ss009	SI	✓	✓	✓	✓	✓	-	Engages highly in network behaviour and maintains contact with support communities in similar areas.	High
<i>Case Sm010</i>	<i>VSI</i>	✓	✓	✓	✓	✓	✓	<i>Has extensive preferred networks with travel agent providers. Online networks are core of the business.</i>	<i>Very High</i>
Case Sm011	MI	✓	-	-	-	-	-	Maintains networks with sales reps and suppliers in a limited capacity.	Low
Case Sm012	SI	✓	✓	-	✓	✓	-	Networks traditionally more than virtually but maintains online networks for international expansion throughout China and Thailand.	Moderate
<i>Aggregate</i>		11/12	9/12	9/12	8/12	8/12	5/12		

Note. VSI = Very strong importance, SI = Strong importance, MI= Moderate importance, d = Developing networks, tick represents 'use', dashed line (-) = Non-use, bold and italicised font = Indicates very high levels of international virtual networking capabilities.

Evaluation of international virtual network capabilities

Three key factors from the data were identified in relation to how international virtual network capabilities influence the international market performance of the firm: (1) *developing relationships with suppliers online*, (2) *developing relationships with distributors online*, (3) *creating international virtual network relationships*, and (4) *maintaining international virtual network relationships*.

(1) Developing relationships with suppliers online

Developing relationships with suppliers in an online environment was identified as important for international business practices. For instance, evidence of these key supplier relationships was found in 11 firms out of the 12 firms in this research (Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss007, Ss009, Sm010, Sm011, Sm012). For example, Case Ss008 (no-deposit finance) noted that: *'Networks are all important. If you look at our business model and our key stakeholders – suppliers become very important to us. These are banks and finance brokers...it's critically important to maintain these relationships they make our business run...'* Case Ss008 (no-deposit finance) also noted that networks had assisted the business in raising capital to support the growth of the firm. Conversely, Case Ss009 (plug-and-play software) highlighted that pre-established Internet-enabled networks with suppliers in international markets such as India posed many barriers, for example, *'...originally we thought the way that we would sell is through resellers overseas [in India]. So we built up all of our infrastructure and business around the idea of reselling through the Internet overseas. Suppliers didn't like to sell our product because our product is subscription-based, it caused many problems and networking through the Internet in this case was impossible...'*

(2) Developing relationships with distributors online

Developing network relationships with distributors in an online space was identified to be important in nine firms (Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss009, Sm010, Sm012) (see Table 4.12). Firms used the Internet to establish and also to maintain ties with distributors. For example, Case Gs001 (health and wellbeing services) maintained that *'...the Internet has expedited the process of information flow between companies and*

suppliers and distributors. There are language barriers with distributors in China and email easily overcomes this.'

(3) Creating international virtual network relationships

Creating network relationships with industry-specific competition was recognised as important by nine firms (see Table 4.12: Gs001, Gs002, Gs003, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010). Cases Gm004, Gm005, Gm006, Sm010 and Sm012 invested time in maintaining these key relationships with competitors. For example, Case Gm004 (jeweller) stated, *'...there's so much competition in the jewellery industry. My efforts to maintain relationships with them [competition] is not for malevolent reasons, it's because we all share industry knowledge and we all benefit...'* Establishing ties with customers in an online environment is also considered a network. Eight firms (Gs002, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm012) claimed that maintaining relationships with customers served two purposes. Firstly, developing ties with customers enabled the firm to gain access to important information about repeat consumers, and secondly, networks with customers were used to further promote the business in targeting new potential business within current customer social groups. For example, Case Gs001 (health and wellbeing services) said, *'We contact our current client base regularly. Through email, Facebook updates and also blogs. Potential interested customers can also register to receive information about our new services and products...We try to tap into further clusters of potential customers by asking for referrals and providing discounts.'*

(4) Maintaining international virtual network relationships

Maintaining relationships with industry authorities was identified in eight firms (Gs002, Gm004, Gm005, Gm006, Ss008, Ss009, Sm010, Sm012). Case Gm005 (coffee roasting business) has extensive networks with authorities and local businesses with similar business interests. It has been suggested that as these dynamic interactions take place, increased trust and knowledge is generated between participant firms, in turn, leading to greater international market commitment and internationalisation (Loane, 2006). Five firms in this research (Gm004, Gm005, Gm006, Ss008, Sm010) also indicated that they had bought into a pre-existing international technology-mediated network. For instance,

Case Ss008 used network ties extensively to raise business capital and fund business growth: *'I've actually used key business network functions to raise capital, where business people talk to other business people. I sold the business concept to one person in the network, the person who really owned the network, and then they sold it to everybody else.'* The findings indicate that firms in this research were also developing entirely new networks. Case Gm005 (coffee roasting business) was partly responsible for developing a new online international network for like-minded young entrepreneurs and explained: *'...the purpose of the club [is] to provide entrepreneurs with a trustworthy environment, a group of similar like-minded people can connect and learn from each other...it's a very trustworthy environment.'* The relationship between international virtual network capabilities and international markets is shown in Figure 4.8.

Types of international virtual network capabilities not identified

The findings from the data, as seen in Table 4.12, indicate that the concept of *paying for international networks* is not an essential component of international virtual network capabilities for firms operating in an Internet-based environment. Five firms in this research (Gm004, Gm005, Gm006, Ss008, Sm010), indicated that they were not only building networks but also buying into pre-existing network connections, mostly linked to legal requirements.

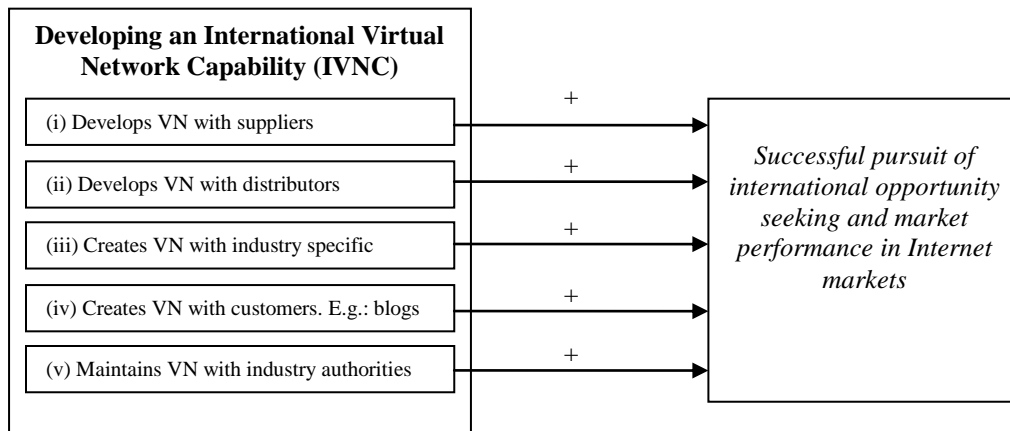
Overall discussion: International virtual network capabilities

The findings from the data show that: (1) *developing relationships with suppliers online*, (2) *developing relationships with distributors online*, (3) *creating international virtual network relationships*, and (4) *maintaining international virtual network relationships* are important components of the networking capabilities associated with international entrepreneurial SMEs operating in an Internet environment and highly influence the internationalisation process.

The findings from the data, which are presented in Figure 4.8, suggest that developing an international virtual network capability (IVNC), comprised of international technology-related networking capabilities, can enhance the firm's progression and successful pursuit

of international opportunities in Internet markets. Specifically, the IVNC (i) *develops IVNC with suppliers*; (ii) *develops IVNC with distributors*; (iii) *creates IVNC with industry specific*; (iv) *creates IVNC with customers*; (v) *maintains IVNC with industry authorities*. The Internet itself has become an IVNC. An important finding of the data is that more firms involved in the research were developing new IVNCs rather than maintaining and leveraging off established networks. This development of new IVNCs was not confined to the firm's export market, but was also seen in subsequent internationalisation. As such, it can be said that developing an IVNC forms an important part of the firm's resource and capability base, which is just one component of a firm's resource bundle that builds towards successful internationalisation via an Internet platform.

Figure 4.8 Components of international virtual network capabilities



Note. NV refers to 'virtual network'

Additional finding: International entrepreneurial opportunity recognition

IE is primarily about opportunity identification and exploitation of international market opportunities (Zahra et al., 2005). It has been argued that understanding how international entrepreneurs make decisions to identify, pursue and exploit international opportunities is necessary for the development of IE as a legitimate field of research (Shane & Venkataraman, 2000; Zahra et al., 2005). A review of the IE literature in relation to the internationalisation of SMEs revealed that empirical studies have given scant attention to

the process of international opportunity recognition in an international Internet-based environment. Instead, empirical studies of opportunity recognition have primarily been in the domain of entrepreneurship research conducted in a domestic context (Shane, 2000; Lumpkin & Lichtenstein, 2005).

A key finding from the literature suggests that international opportunity recognition is the beginning of the internationalisation process and essentially is what ‘triggers’ everything off (Chandra, Styles & Wilkinson, 2009). The findings of this study suggest that the international opportunity recognition and subsequent exploitation of international market opportunities of firms occur after the identification of firm-level resources and capabilities. That is, international entrepreneurial opportunity recognition is a mediating variable between a firm’s resource and capability base and the international market performance of firms. In the following section, the level of importance of the firm-level resources and capabilities identified from the data will be presented in Table 4.13. Following Table 4.13, concluding remarks for Chapter Four will be provided, along with the proposed conceptual model for the qualitative findings of Study One.

Table 4.13 Research Issues: Analytic importance resources and capabilities

Construct variable identification	Level of importance	
<i>RQ 1: What are the firm-level resources and Internet, international marketing capabilities of firms, and how do they influence international performance?</i>		
International technology-related innovation		
01. New product development in an online environment	High	
02. Re-producing an existing online product in a new way	Low	
03. Introducing new methods of production in an online space	Low	
04. Opening new markets enabled by the Internet	High	
05. Developing new organisational structures in an online space	Low	
06. Implementing untried Internet technologies previously not used	Low	
07. Using the Internet to achieve international outcomes	High	
08. Experimentation of the Internet in firm internationalisation activities	Low	
09. Online innovation and markets of similarity	High		NEW FINDING
International technology-related proactiveness		
01. Creates first-mover advantages in an online space	Low	
02. Capitalises on new product innovations to create opportunity online	Low	
03. More proactive than competitors towards new online marketplace opportunities	Moderate	
04. Maintains a 'forward-looking' perspective	High	
05. Proactive in international opportunity seeking in Internet-mediated environments	Moderate	
06. Anticipates the future online needs of the firm	High	
07. Online proactiveness and geographic market proximity	Very high	NEW FINDING
International technology-related risk-taking propensity		
01. Commits resources to Internet-mediated projects where the risk of failure is moderate	High	
02. Takes risk to try new Internet technologies	Low	
03. Pursues risky new initiatives in highly dynamic Internet environments	Low	
04. Internet risk reduction in internationalisation	Confirm	NEW FINDING
Technology-related international vision		
01. Encompasses an international / technological mindset from the outset	Low	
02. The ability to envision international business / Internet expansion in the future	Moderate	
03. The business's mission statement is geared towards international outcomes	Low	
04. Procuring the best resources at the least expense	High	
05. The business aspires to grow international customers	High	
06. Online efficiency seeking and international vision	Very high	NEW FINDING
07. Online growth seeking and international vision	Very high	NEW FINDING
International business experience		
01. Achieved a certificate level qualification	Low	
02. Obtained a technical college/TAFE equivalent diploma	Low	
03. Obtained a Bachelor's degree	Low	
04. International experience of living abroad and working in another firm	Moderate	
05. International experience of working in another firm	High	
06. Experience of working in another firm on Internet-mediated projects	Moderate	
07. International experience and opportunity seeking	Very high	NEW FINDING
Internet, international marketing capabilities		
01. Email	High	
02. Website	High	
03. Marketing and advertising	High	
04. Online sales	High	
05. After sales support	High	
06. Market research	High	
07. Identify international competitors	Low	
International virtual network capabilities		
01. Develops relationships with suppliers online	High	
02. Develops relationships with distributors online	High	
03. Creates ties with industry specific competition	High	
04. Creates ties with customers online	High	
05. Maintains relationships with industry relevant authorities	High	
06. Pays for international networks	Low	
07. International virtual network capability (IVNC)	Very high	NEW FINDING

4.4 Evaluation of Chapter Four

The first concept to be addressed in this chapter was firm-level resource 1: International technology-related innovation. Evidence from this research indicates that the development of innovation in an online context is characterised by new product development in an online space, opening of new Internet-enabled markets, and use of the Internet to achieve international outcomes, such as growth. These key components of international innovation are important for the innovative processes of the SME and are critical to the identification and successful pursuit of international opportunities, and subsequently the exploitation of these new international market spaces. Evidence from Study One also indicates that use of the Internet as a medium to achieve international performance outcomes is driven by the firm's online opportunity recognition.

The evidence from firm-level resource 2: International technology-related proactiveness indicates that SME international entrepreneurial firms display international proactiveness through, firstly, maintaining a forward-looking perspective and secondly, anticipating the future online needs of the firm. The primary motivation for SMEs in engaging in exporting behaviour was taking advantage of lucrative online international opportunities. Firms stimulated by the opportunity-seeking behaviour proactively devoted resources to the firm's Internet processes to systematically track down international growth opportunities. Therefore, it can be said that the international technology-related proactiveness of the international entrepreneur is an important firm-level resource in assisting SMEs to uncover the motivations for internationalisation.

The data in relation to firm-level resource 3: International technology-related risk-taking propensity shows that commitment of resources to Internet-mediated projects where the risk of failure is moderate was noted as being the most influential component of risk in the context of online international entrepreneurial internationalisation. Evidence from Study One indicates that while the Internet did previously have an impact on reducing risk in internationalisation, the Internet has now created a perception where international entrepreneurial managers now view internationalisation as a low-risk business practice. This is because the Internet has negated the traditional barriers faced by firms in the

internationalisation process. The evidence also shows that this perceived risk reduction positively impacts the international entrepreneurial opportunity recognition and exploitation of the Internet's international marketing capabilities to achieve successful international market outcomes. These key findings as such provide important implications for traditional models of internationalisation, such as the Uppsala model which has long proposed that firms move into international markets gradually. The findings of this research indicate that risk can be reduced in the internationalisation process because Internet, international marketing capabilities have a positive impact on the internationalisation process; thus, lowering the 'overestimation' that internationalisation activities are high risk in nature.

Evidence from firm-level resource 4: Technology-related international vision shows that procuring the best resources at the least expense in an online environment (efficiency seeking), and actively seeks to grow the business through Internet-based platforms (growth seeking) are important components of technology-related international vision. Two themes – efficiency seeking in the procurement of resources and growth seeking in online environments – were identified as important enablers to international entrepreneurial opportunity recognition and exploitation of Internet, international marketing capabilities and perceived international outcomes. The findings indicate that the Internet is impacting on international entrepreneurs' perceptions of the level and degree to which international vision is perceptible in business practice.

The data in relation to firm-level resource 5: International business experience indicates that international experience of working for an international firm, but not living in another country, was the most important form of experiential knowledge. The findings of the data show that international entrepreneurs are learning to successfully grow their businesses internationally by working in and initiating new international business through learning and the previous experience they had gained. The intellectual wealth accumulated by international entrepreneurs is allowing the wealth of experience to grow over time, enabling international entrepreneurs to better identify and exploit international online opportunities as a result of knowledge and experience development. There is evidence which also indicates a lack of knowledge in education in relation to prior experience with

Internet technology and in working in international markets. This means that the lack of formal qualifications such as certificate, technical college/TAFE equivalent and bachelor's degrees, has led to the non-accumulation of explicit knowledge and skills which could be useful to international entrepreneurs. The findings of this study differ from the findings of Wiklund and Shepherd (2003), who found that growth aspirations increase at a faster rate for entrepreneurs with higher levels of education.

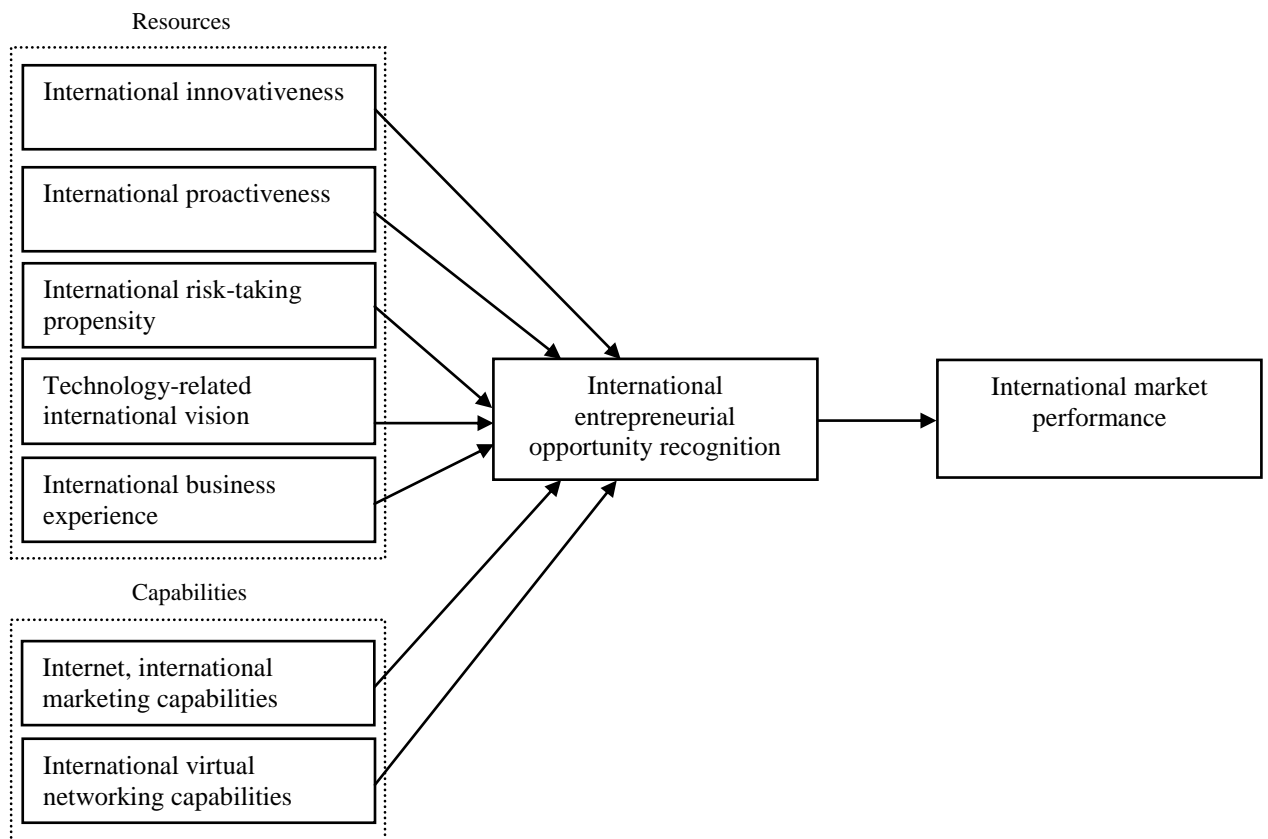
The evidence from capability 1: Internet, international marketing capabilities, shows that the findings from the data indicate that use of email and official company websites, marketing and advertising capabilities, the Internet as an online sales mechanism, after sales service, and market research capabilities, are important components related to how international entrepreneurial firms are achieving successful Internet internationalisation. The findings show that the intensity of Internet use in firms is facilitating international market expansion to achieve international market outcomes. While the importance of capabilities to IE was emphasised in the inception of IE as a field of inquiry, the findings from Study One indicate that Internet environments are different in that additional technology-related capabilities are vital. The evidence shows that while technology itself is important, Internet, international marketing capabilities render sustainable competitive advantage when the firm has the ability to configure bundles of Internet, international marketing capabilities to leverage opportunity in highly complex and rapidly changing Internet environments.

The data in relation to capability 1: International virtual network capabilities shows that developing an international virtual network capability (IVNC), comprised of international virtual networking capabilities, can enhance the firm's progression and successful pursuit of international opportunities in Internet markets. Specifically, the IVNC (i) develops IVNC with suppliers; (ii) develops IVNC with distributors; (iii) creates IVNC with industry specific; (iv) creates IVNC with customers; (v) maintains IVNC with industry authorities. An important finding from Study One shows that more firms were developing new IVNCs rather than maintaining and leveraging off established networks. The findings from this research indicate that developing international virtual networking capabilities can enhance the firm's progression and successful pursuit of international opportunities.

The SMEs in this research were increasingly utilising the Internet for the acquisition and maintenance of international networks.

Overall, Figure 4.9 shows that a relationship between three firm-level resources; *International entrepreneurial orientation*, *technology-related international vision*, and *international business experience*, and capabilities; *International virtual network capabilities* and *Internet, international marketing capabilities*, which influence the successful pursuit of international entrepreneurial opportunity recognition and the international market performance of the firm. That is, firm-level resources and Internet capabilities are expected to positively influence the international entrepreneurial opportunity recognition and international market performance outcomes for the firm.

Figure 4.9 Proposed conceptual model of firm-level resources and Internet capabilities



Note. The following chapter will present the proposed model and hypothesis.

4.5 Conclusion

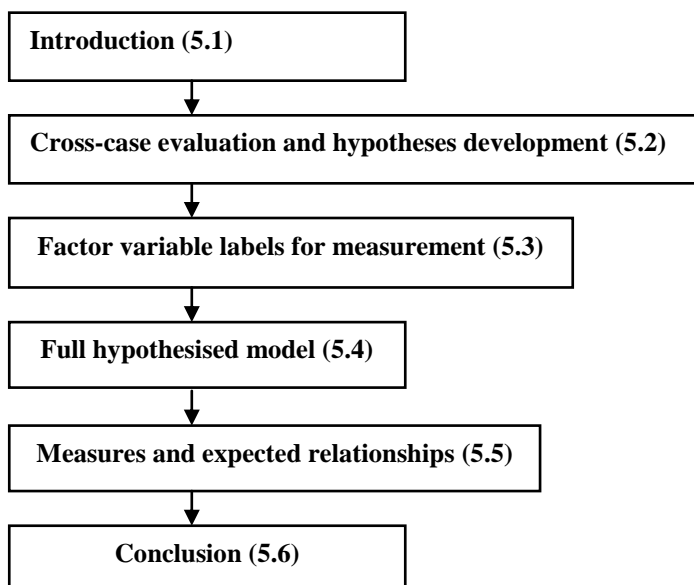
This chapter provided the qualitative findings for Study One. The results addressed two research questions by firstly identifying the firm-level resources and, secondly, the capabilities influencing the international opportunity recognition and the international market performance of entrepreneurial SMEs. Explanation of the inter-relationships between how the firm-level resources and capabilities are influencing the international opportunity recognition and the international market performance of firms was also discussed. These key findings from Study One led to the development of a conceptual model of international entrepreneurial firm-level resources and capabilities as shown in Figure 4.9. This conceptual model identifies how firm-level resources and capabilities of the international entrepreneur are influencing the international opportunity recognition and exploitation behaviour of firms, consequently leading to international market performance outcome for the firm. Next, Chapter Five will discuss the development of the hypotheses and the theoretical model.

CHAPTER FIVE: HYPOTHESES AND THEORETICAL MODEL DEVELOPMENT

5.1 Introduction

Based on the findings from the qualitative data in Chapter Four, Chapter Five discusses the hypotheses for model development. Included in this chapter is a discussion of knowledge gained from Chapter Four and research question one, as well as the hypothesis developed as a result of the findings from the qualitative data. The hypotheses have been developed from each construct of the proposed conceptual model: *international entrepreneurial orientation*; *technology-related international vision*; *international business experience*; *Internet, international marketing capabilities*; *international virtual network capabilities*; and *international entrepreneurial opportunity recognition*. The full hypothesised model for structural equation modelling is also presented in conjunction with the measures utilised. Concluding comments for Chapter Four are also provided. A diagrammatic overview of Chapter Five can be seen in Figure 5.1.

Figure 5.1 Diagrammatic overview of Chapter Five



5.2 Cross case evaluation: Hypotheses and model development

Based on the analysis of data in Chapter Four, hypotheses were developed for Study Two. In Study Two, quantitative modelling of the findings from the data in Chapter Four is conducted. The formulation of hypotheses for Study Two can be seen in Table 5.1. In addition, a pre-structural equation model is presented in Figure 5.3, the theoretical concepts of which are included in Table 5.1. Following Table 5.1, the hypotheses developed for international entrepreneurial orientation will be discussed.

Table 5.1 Research questions and variable identification and hypotheses

Research question	Qualitative protocol questions	Construct findings (F)	Hypotheses development
RQ 2a: <i>What is the relative influence of firm-level resources and Internet, international marketing capabilities on international performance?</i>	PART E: Qs: 6, 7, 8, 9	International entrepreneurial orientation IEO (F1)	H1: 'International entrepreneurial orientation is positively related to international market performance' H2: 'International entrepreneurial orientation is positively related to international entrepreneurial opportunity recognition'
	PART F: Qs: 10, 11, 12, 13	Technology-related international vision TRIV (F2)	H3: 'Technology-related international vision is positively related to international market performance' H4: 'Technology-related international vision is positively related to international entrepreneurial opportunity recognition' H5: 'Technology-related international vision is positively related to Internet, international marketing capabilities'
RQ 2b: <i>How do international entrepreneurs leverage Internet, international marketing capabilities for international performance?</i>	PART G: Qs 14, 15, 16, 17, 18, 19	International business experience IBE (F3)	H6: 'International business experience is positively related to international market performance' H7: 'International business experience is positively related to international entrepreneurial opportunity recognition'
	PART H: Qs: 20, 21, 22	Internet, international marketing capabilities IIMC (F4)	H8: 'Internet, international marketing capabilities are positively related to international market performance' H9: 'Internet, international marketing capabilities are positively related to international entrepreneurial opportunity recognition' H10: 'Internet, international marketing capabilities are positively related to international virtual networking capabilities'
	PART I: Qs 23, 24, 25, 26	International virtual networking capability IVNC (F5)	H11: 'International virtual networking capabilities are positively related to international market performance' H12: 'International virtual networking capabilities are positively related to international entrepreneurial opportunity recognition'
	PART J: Qs 27, 28, 29, 30, 31	*International entrepreneurial opportunity recognition IEOP (F6) International market performance IMP (F7)	H13: 'International entrepreneurial opportunity recognition is positively related international market performance'

Note. *New construct identified and therefore not addressed in the interview protocol. F = factor variable, H= Hypotheses.

5.2.1 International entrepreneurial orientation

The concept of international entrepreneurial orientation reflects the firm's overall innovativeness, proactiveness and risk-taking propensities in the pursuit of international markets (Knight & Cavusgil, 2004). From a conceptual standpoint, research describes international entrepreneurial orientation as an antecedent to phenomena including internationalisation (Knight, 2001; Ripollés-Meliá et al., 2007), and international performance (Jantunen et al., 2005; Wiklund & Shepherd, 2003; Mostafa et al., 2006). An international entrepreneurial orientation also gives rise to innovative processes and practices intended to maximise organisational success in new markets (Lumpkin & Dess, 1996). When examining international entrepreneurial orientation from a quantitative perspective, a minority of researchers test the individual dimensions (e.g. innovativeness) of international entrepreneurial orientation singularly. Instead, most research modifies classic entrepreneurial orientation measures into an international entrepreneurial orientation scale encompassing the three dimensions of international innovativeness, proactiveness and risk-taking propensities (for example see, Knight 2001). As such, the three dimensions of international entrepreneurial orientation will not be tested singularly in Study Two, but rather as a total. The findings of Study One suggest that firms with an international entrepreneurial orientation engage in international innovative, proactive and risk-seeking behaviours in order to achieve the firm's competitive and internationally oriented goals and successful international market performance. As such, Hypothesis one (H1) can be postulated:

H1: *International entrepreneurial orientation is positively related to international market performance*

International entrepreneurial opportunity recognition is described as the beginning of the internationalisation process, and includes the deliberate and systematic search of the ways in which firms discover opportunities to enter international markets (Chandra et al., 2009). International entrepreneurial orientation has also been found to increase the firm's chance of identifying new means-end relationships, leading to international market opportunity (Chandra et al., 2009). Accordingly, international entrepreneurial orientation is also suggested to be instrumental in the development and enactment of key

organisational international business processes (Knight & Cavusgil, 2004). Further, Jantunen et al. (2005) suggest that an international entrepreneurial orientation supports opportunity recognition in international markets, giving reason to suppose that international entrepreneurial orientation has a positive effect on international performance. The findings of Study One suggest that having an international entrepreneurial orientation can prompt the development of international opportunity recognition and exploitation of new market opportunities. As such, Hypothesis two (H2) can be postulated:

H2: *International entrepreneurial orientation is positively related to international entrepreneurial opportunity recognition*

5.2.2 Technology-related international vision

Entrepreneurs with an international vision play an important role in the firm's international progression as well as in the international strategies implemented within the firm (Andersson, 2000). Evidence suggests that an entrepreneur's international vision is a capability essential for the firm's progression into international markets (Tesar & Tarleton, 1982; Autio et al., 2000; Johnson, 2004). Research indicates that Internet-enabled SMEs with an international vision adopt Internet technologies to realise their international intentions to achieve international performance (Aspelund & Moen, 2004). Scholars (Autio et al., 2000; Aspelund & Moen, 2004; Johnson, 2004; Andersson & Evangelista, 2006) argue that managers with an international mindset and high levels of international vision are more global in nature and tend to outperform those firms without an international vision. The findings from the data in Study One corroborate these key findings. As such, Hypothesis three (H3) can be postulated:

H3: *Technology-related international vision is positively related to international market performance*

The international vision of the entrepreneur is also argued to be an important component in businesses seeking international market expansion, allowing firms to seek out new international opportunities aggressively (Autio et al., 2000; Nummela et al., 2004). In

many instances, it is the entrepreneur's drive and international vision that allows firms to expand into international markets and seek out new business opportunities (Andersson & Evangelista, 2006). The findings of Study One suggest a relationship between technology-related international vision and the international entrepreneurial opportunity recognition of the firm. As such, Hypothesis four (H4) can be postulated:

H4: *Technology-related international vision is positively related to international entrepreneurial opportunity recognition*

Study One of this research argued that Internet, international marketing capabilities have a positive impact on the perception and the reduction of risk in internationalisation. This is because the Internet has negated the key risk factors of more traditional forms of internationalisation (Mathews & Healy, 2008), such as high uncertainty about export markets due to limited information and knowledge, high costs, and psychic distance (Petersen, et al., 2002). This key reduction in risk overall has led to many SME entrepreneurial firms seizing opportunities available in an Internet environment (Mathews & Healy, 2008). Internet, international marketing capabilities provide SMEs with the proclivity to engage in international activity (Mathews et al., 2012). Research conducted on small high-tech exporting manufacturers also identifies that SMEs with an international vision adopt information communication technologies, such as the Internet, to realise the firm's international intentions (Aspelund & Moen, 2004; Andersson & Evangelista, 2006). For this reason, it is suggested that Internet, international marketing capabilities will have a positive influence on the firm's international vision to exist and operate in an Internet environment, allowing technologically advanced firms to with an international vision to adopt international strategies (Loane, 2006; Johnson, 2004; Aspelund & Moen, 2004). As such, Hypothesis five (H5) can be postulated:

H5: *Technology-related international vision is positively related to Internet, international marketing capabilities*

5.2.3 *International business experience*

Prior international business experience of the entrepreneur has an important effect upon entrepreneurial firms, particularly on the initial decision to expand and in the continuation of the strategy into international markets (Dyer & Handler, 1994; Loane & Bell, 2002; Fischer & Reuber, 2003; Hutchinson et al., 2006). The findings of the data from Study One indicate that international entrepreneurs are learning to successfully grow their businesses in by working in and initiating new international business through learning and previous experience. As international entrepreneurial learning takes place, the international business experience of the entrepreneur grows (Stuart & Albetti, 1990; Reuber & Fischer, 1997, 1999). Prior international experience is also a critical component of the international entrepreneur's human capital for internationalisation (Stuart & Albetti, 1990). As such, Hypothesis six (H6) can be postulated:

H6: *International business experience is positively related to international market performance*

The findings from Study One indicate that the intellectual wealth accumulated by international entrepreneurs allows experience to grow over time, enabling international entrepreneurs to better identify and exploit international opportunities as a result of knowledge and experience development (Stuart & Albetti, 1990; Venkataraman, 1997). The transmission and retrieval of knowledge such as information about export markets, competitor intelligence and market research from international experience is also suggested to influence the successful recognition and exploitation of international opportunities. According to Venkataraman (1997), each entrepreneur's prior knowledge creates a 'knowledge passage' that allows opportunities to be recognised. For instance, in a study of technological innovations, Shane (2000) argued that differences in prior knowledge influenced who discovered entrepreneurial opportunities and that different entrepreneurs seek different opportunities. It has also been suggested that the more prior international experience and knowledge a firm has, the greater its chance of identifying unanticipated international opportunity (Chandra, et al., 2009). Therefore, Hypothesis seven (H7) can be postulated:

H7: *International business experience is positively related to international entrepreneurial opportunity recognition*

The findings of Study One indicate that increased levels of experiential knowledge related to the Internet and international markets through international experience, lead to the entrepreneur having a more internationally oriented vision. Research suggests that prior international business experience influences the way entrepreneurs comprehend and recognise international opportunities (Chandra et al., 2009). This is because the international entrepreneur is better equipped with the information and knowledge required to make investments in internationalisation activities. The information and knowledge gained from prior international experiences also reduces the perceived risks and uncertainties associated with internationalisation (Chandra et al., 2009). As a direct consequence of the reduction of risks in internationalisation, opportunities in the international marketplace arise, which in conjunction with increased levels of international experience, create increased international opportunity recognition.

5.2.4 Internet, international marketing capabilities

It is now widely acknowledged that the Internet has provided entrepreneurial SMEs with new ways to conduct business, communicate ideas, and exchange information, allowing businesses to improve the efficiency of their internationalisation activities (Aspelund & Moen, 2004; Gibbs & Kraemer, 2004; Loane, 2006; Bell & Loane, 2010). The literature suggests that Internet, international marketing capabilities are an important and unique capability (Loane, 2006; Etemad et al., 2010; Reuber & Fischer, 2011). More than the Internet itself, the sustainability of competitive advantage in the international marketplace lies in the firm's ability to re-configure and leverage the capabilities provided by the Internet to achieve successful international market performance outcomes. Further, the Internet has been found to be associated with increased international market performance (Mostafa et al., 2006; Bell & Loane, 2010; Reuber & Fischer, 2011). As such, Hypothesis eight (H8) can be postulated:

H8: *Internet, international marketing capabilities are positively related to international market performance*

Prior research in IE also proposes that Internet, international marketing capabilities can improve the firm's pursuit of international opportunities (Reuber & Fischer, 2011). That is, the Internet can assist in the recognition of international opportunities. Data from Study One corroborates these findings and suggests that encompassing Internet, international marketing capabilities will better enable firms to pursue internationalisation opportunities as a result of Internet environments. As such, Hypothesis nine (H9) can be postulated:

H9: *Internet, international marketing capabilities are positively related to international entrepreneurial opportunity recognition*

5.2.5 International virtual networking capabilities

The importance of networks in the internationalisation of international entrepreneurial firms operating in an Internet environment is widely accepted (Knight & Cavusgil, 2004; Loane, 2006; Loane & Bell, 2006; Mathews & Healy, 2007; Mathews et al., 2012). SMEs utilise the Internet to acquire information and knowledge, but also increasingly to develop and maintain international network relations (Aspelund & Moen, 2004; Mathews & Healy, 2008; Aspelund, Moen & Madsen, 2007; Moen et al., 2008; Reuber & Fischer, 1997). It is argued that international virtual networking capabilities substantially enhance the knowledge base of SME entrepreneurial firms by providing businesses with the ability to generate international market performance through Internet environments. The research findings of Study One suggest that while more traditional networks are important, greater emphasis is now placed on strategic use of the Internet for internationalisation. Thus, international virtual network capabilities are a valuable resource for SMEs operating in Internet environments (Coviello & Munro, 1995; Poon & Jevons 1997; Loane, 2006; Loane & Bell, 2006). As such, Hypothesis ten (H10) can be postulated:

H10: *Internet, international marketing capabilities are positively related to international virtual networking capabilities*

Research suggests that firms with extensive international virtual networks internationalise quicker and more successfully than firms without virtual networks (Loane, 2006;

Mathews & Healy, 2007). The value of international virtual networking capabilities as an integral part of the explanation of international entrepreneurial success is also widely acknowledged in the literature (Coviello & Munro, 1995; Dimitratos & Plakoyiannaki, 2003; Loane & Bell, 2006; Mort & Weerawardena, 2006). The findings from Study One suggest that developing international virtual networking capabilities can enhance the firm's progression and successful pursuit of opportunities to achieve international market performance outcomes. This is in line with research that argues that virtual networks have a positive influence on the firm's international performance outcomes (Aspelund & Moen, 2004; Mathews & Healy, 2008; Moen et al., 2008; Reuber & Fischer, 1997). As such, Hypothesis eleven (H11) can be postulated:

H11: *International virtual networking capabilities are positively related to international market performance*

The Internet plays a pivotal role in the creation of relationships for SMEs and is a mechanism for the creation of international growth opportunities (Loane, 2006; Mathews & Healy, 2008; Chandra et al., 2009). Scholars also suggest that virtual networks can assist firms recognising and exploiting new international market opportunities (Loane, 2006; Mort & Weerawardena, 2006). Further, it can be said that developing international virtual networking capabilities also forms an important part of the firm's capability base, one component of a firm's resource bundle that builds towards successful internationalisation and exploitation of new international market opportunities, thus driving growth performance outcomes of the firm. As such, Hypothesis twelve (H12) can be postulated:

H12: *International virtual networking capabilities are positively related to international entrepreneurial opportunity recognition*

5.2.6 International entrepreneurial opportunity recognition

IE concerns opportunity identification and exploitation across international markets (Zahra et al., 2005). Research suggests that the process of international entrepreneurial opportunity recognition is a critical component of a firm's international market strategy,

because it is primarily concerned with the ways in which firms identify and take advantage of new international market opportunity to leverage international market performance (Chandra et al., 2005; Zahra et al., 2005, Dimitratos et al., 2012). A review of the IE literature in relation to the internationalisation of SMEs revealed that empirical studies have paid scant attention to the relationship between international opportunity recognition and a firm's international market performance (Zahra et al., 2005; Cooper & Park, 2008; Chandra et al., 2009; Chandra, Styles & Wilkinson, 2012). Instead, empirical studies of opportunity recognition have primarily been in the research domain of entrepreneurship, primarily conducted in a domestic context (Shane, 2000; Lumpkin & Lichtenstein, 2005). This is despite the finding that international opportunity recognition is the beginning of the internationalisation process and deserves more systematic research attention due to the nature of its role in starting the internationalisation process (Chandra et al., 2009). As such, it is evident that opportunities are recognised, acted on and exploited by international entrepreneurial firms to achieve international firm performance in various ways that are not yet well understood (Chandra et al., 2009). As such, Hypothesis thirteen (H13) can be postulated:

H13: *International entrepreneurial opportunity recognition is positively related to international market performance*

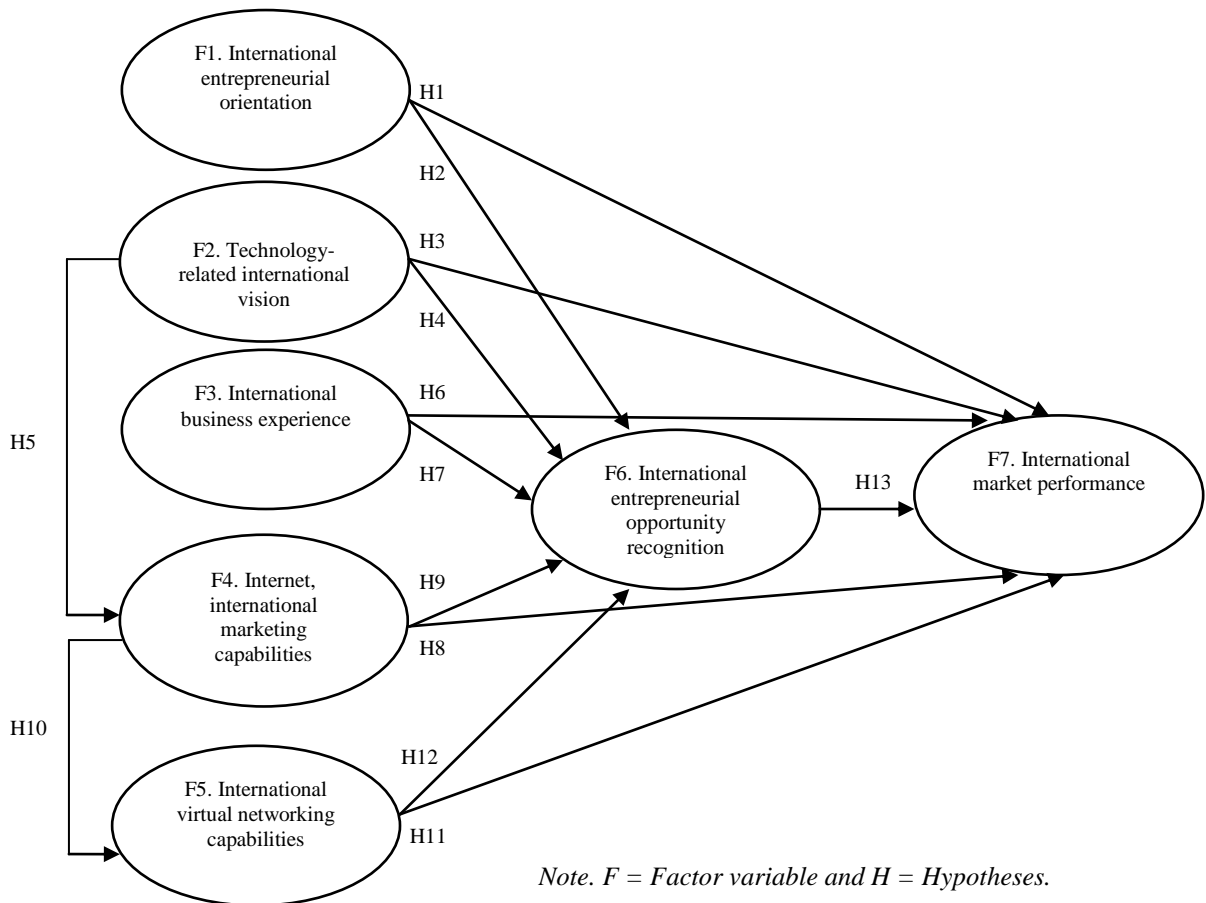
The hypotheses presented in this research forms the basis of quantitative Study Two. The proposed conceptual model in Figure 5.2 indicates the hypothesis for confirmation in Study Two.

5.3 Full hypothesised model

The full hypothesised model presented in Figure 5.2 outlines the expected relationships between constructs in this research as denoted by the hypotheses. The full hypothesised model exhibits three resources; *International entrepreneurial orientation*, *technology-related international vision*, and *international business experience* and three capabilities; *International virtual networking capabilities*, *international entrepreneurial opportunity recognition*, and *Internet, international marketing capabilities*. The dependent variable is

denoted by the international market performance construct. The factor variable labels for measurement in this research will be outlined following Figure 5.2.

Figure 5.2 Hypothesised model of firm-level resources and Internet capabilities



5.4 Factor variable labels for measurement

The seven factor variable labels identified in Figure 5.2 are each discussed individually below.

5.4.1 International entrepreneurial orientation: (Factor 1)

Three decades since its conceptualisation, entrepreneurial orientation is a central component and a well-established area of entrepreneurship and strategy research (Slevin & Terjesen, 2011). Drawing from entrepreneurial orientation, international

entrepreneurial orientation reflects the firm's overall international innovativeness, proactiveness and risk-seeking propensities in the pursuit of international markets (Knight, 2001). From a conceptual standpoint, international entrepreneurial orientation has been described as an antecedent to various phenomena including international exporting (Ibeh & Young, 2001), internationalisation (Knight, 2001) and international performance (Jantunen et al., 2005; Mostafa et al., 2006), as well as an outcome of the firm's overall efforts to internationalise (Slevin & Terjesen, 2011). Extant studies indicate that researchers often use the term entrepreneurial orientation to theorise, develop hypotheses and to test relationships with a variety of measures from entrepreneurial orientation in the context of international entrepreneurial orientation (Slevin & Terjesen, 2011). In terms of measuring international entrepreneurial orientation, a minority of internationally related studies utilise the 'classic' M/CS scales where individual dimensions of entrepreneurial orientation are tested (see, Mostafa et al., 2006).

Most research instead modifies classic entrepreneurial orientation scales into some type of international entrepreneurial orientation scale (Slevin & Terjesen, 2011). This is because international entrepreneurs possess a unique and distinctive orientation or outlook, which when combined with other resources and capabilities, allows them to see and exploit opportunities in international markets, best captured by an international entrepreneurial orientation aggregate scale (Knight & Cavusgil, 2004). This work draws on nine measures as proposed by Knight and Cavusgil (2004), which draws on the work of Khandwalla (1977), Miller and Friesen, (1984), and Covin and Slevin (1989). These researchers measured international entrepreneurial orientation, including international innovativeness, proactiveness and risk-taking propensities, with 12 items, as shown in Table 5.2.

5.4.2 Technology-related international vision: (Factor 2)

The international vision of the entrepreneur is argued to be imperative for allowing firms to seek new international opportunities aggressively (Autio et al., 2000). Research suggests that the firm's decision to pursue international opportunities is dependent on the founding entrepreneur's international competencies and vision for international growth (Aspelund & Moen, 2004; Grilo & Thurik, 2005). Oviatt and McDougall (2005) invoke

the importance of an entrepreneur's vision, calling for a closer examination of entrepreneurs' cognition in shaping the internationalisation process. Yet despite the importance of international vision for the firm's performance, understanding of the vision related to an entrepreneurial firm's progression into international markets is an under-examined research phenomenon. Measures for international vision in a technology-related context in this research study were derived from the work of Nummela et al. (2004).

5.4.3 International business experience: (Factor 3)

A number of studies have examined the impact of a manager's international experience on their firms' internationalisation behaviours (Reid, 1981; Oviatt & McDougall, 1994; Reuber & Fischer, 1997; Sapienza, et al., 2006). Given that the focus in this research is on SME internationalisation, utilisation of a measure for the entrepreneur's length of experience in international business was justified (Fischer & Reuber, 2003). It has also been suggested that a successful predictor for international experience is the manager's level of past experience in working on projects where developing international markets for a firm was a priority (Reuber & Fischer, 1997; Sapienza et al., 2006). Measures for examining international experience have been drawn the work of Stuart and Albeti (1990) and Reuber and Fischer (1997).

5.4.4 Internet, international marketing capabilities: (Factor 4)

This research coins the term, 'Internet, international marketing capabilities', which make reference to the capabilities provided by the Internet. Internet capabilities are defined as the 'engagement of routines, prior and emergent knowledge, analytic processes, and simple rules to turn information technology into customer value' (Zhu & Kraemer, 2002, p. 278). Internet marketing capabilities are an important and unique firm resource in the context of SME internationalisation (Loane, 2006; Etemad et al., 2010; Reuber & Fischer, 2011). More than the Internet itself, it has been argued that competitive advantage in the global marketplace from technology lies in the firm's ability to re-configure and leverage technology in rapidly changing Internet environments (Zhu & Kraemer, 2002; Liao et al., 2009).

This research draws on a number of measures presented in empirical quantitative studies (e.g. Zhu & Kraemer, 2002; Aspelund & Moen, 2004; Gibbs & Kramer, 2004; Liao et al., 2009) and from the recent conceptual work of Reuber and Fischer (2011). Internet usage is measured through applications of Internet technology including email applications, website, advertising and marketing, online sales and after sales service (Gibbs & Kramer, 2004); as well as market research to identify international competitors (Aspelund & Moen, 2004) and software development. The firm's ability to leverage the Internet for international markets and the renewal of Internet operational capabilities was applied using adapted measures by Zhu and Kraemer (2009), while technology and performance variables were measured from the conceptual work of Reuber and Fischer (2011).

5.4.5 International virtual networking capabilities: (Factor 5)

The ways in which firms are using international virtual networking capabilities to leverage firm internationalisation to achieve international market performance has not been reported. Traditionally, an international network perspective highlights that networks and relationships are important in the internationalisation of small firms, enabling firms to link activities and tie resources together (Coviello & Munro, 1995; Chetty & Wilson, 2003; Andersson & Wictor, 2003; Mort & Weerawardena, 2006). The findings from Chapter Four indicate, however, that developing international virtual networking capabilities can enhance the firm's progression and successful pursuit of international opportunities. SMEs are increasingly utilising the Internet for the acquisition and maintenance of international networks (Aspelund & Moen, 2004; Mathews & Healy, 2008; Aspelund, Moen & Madsen, 2007; Moen, et al., 2008; Reuber & Fischer, 1997).

As such, it is argued that further research should be conducted into whether international virtual networking capabilities substantially enhances the knowledge base and international market performance of the firm. Research also suggests that developing international virtual networking capabilities forms an important part of the firm's resource base that builds towards successful internationalisation (Aspelund & Moen, 2004; Mathews & Healy, 2008; Reuber & Fischer, 1997). Despite these key findings, the importance of the Internet for international networking capabilities in small firms is still an underdeveloped topic of research (Loane, 2006; Mathews et al., 2012). Traditional

measures of business networks by Wu, Mahajin and Balasubramanian (2003) and the conceptual work of Loane (2006) were adapted to align with the international entrepreneurial nature and Internet context of this research.

5.4.6 International entrepreneurial opportunity recognition: (Factor 6)

International entrepreneurial opportunity recognition, one of the central ideas of IE, is the ability to recognise a good idea and transform it into an international business concept that adds value and generates international revenues (Lumpkin & Lichtenstein, 2005). Although research in the field of IE has recently experienced growth, the development of constructs required to test firm-level IE has not been established accordingly (Dimitratos et al., 2012). More importantly, IE constructs do not directly address the extent to which firms are involved in the recognition and exploitation of international opportunities (Brown, Davidsson & Wiklund, 2001). It has been argued in the literature that an international entrepreneurial culture (Dimitratos et al., 2012) can provide an encompassing construct that captures international entrepreneurial activities of the firm seeking to identify and pursue international opportunities (Zahra et al., 2005; Dimitratos et al., 2012). The literature suggests that an international entrepreneurial culture is expected to be related to the firm's international market performance. In an Internet context, these opportunity-based constructs are yet to be tested. As such, measures adapted from the work of Lumpkin and Lichtenstein (2005) and Dimitratos et al., (2012) were utilised.

5.4.7 International market performance: (Factor 7)

In previous studies growth has been used as a proxy for firm performance (Wiklund & Shepherd, 2005). In this study it is argued that performance is a multi-dimensional construct in nature, which should incorporate different dimensions of performance in empirical studies (Wiklund & Shepherd, 2005). To capture the different dimensions of SME performance, a combination of financial performance and growth measures were utilised. For financial performance, utilisation of international profitability measures and overall assessments of performance were justified (Moen et al., 2008). In terms of measuring international performance, Murphy et al. (1996) argue that the construct of

international performance should be measured by more than one dimension of performance to give greater accuracy in examination of the firm's overall performance (Murphy et al., 1996). Wiklund and Shepherd (2005) also agree that international performance should be measured through at least two different dimensions of performance, preferably including both financial and non-financial performance indicators (Wiklund & Shepherd, 2005). Validated measures of international firm performance utilised in this research include sales growth, sales growth relative to competitions, international market share (Moen et al., 2008), satisfaction with international activities (Jantunen et al., 2004), and the percentage of sales as international revenue and profit.

5.5 Measures and expected relationships

The scales utilised for this study were constructed following the systematic approach outlined by Churchill (1979). This systematic approach to the development of scales ensured that scales were adopted without change, or adapted from international business literature with the core concept of the measure remaining intact. Thus, all measures utilised in this study have been drawn from extant literature in the fields of international business and IE. The summary of measures utilised in this research can be seen in Table 5.2, where the factor variable (label) and scale for measurement, expected relationships, measures and whether the scales were adopted without change or adapted are described. Following Table 5.2, concluding statements for Chapter Five will be presented.

Table 5.2 Summary of measures

Factor variable (label) and scale for measurement	Expected relationships	Measures	Adopted or adapted
International entrepreneurial orientation IEO: Consisting of innovativeness, proactiveness and risk-taking propensity (F1) *Knight and Cavusgil (2004) (KC) <i>drawing from:</i> Khandwalla (1977) Miller and Friesen, (1984) Covin and Slevin (1989)	IEO --- WWORLD	1. The world as the marketplace (KC)	Adopted
	IEO --- ACTEXPL	2. Active exploration of new business opportunities abroad (KC)	Adopted
	IEO --- MISION	3. Communication of mission to succeed in international markets (KC)	Adopted
	IEO --- RESALO	4. Human and financial resource allocation for international markets (KC)	Adopted
	IEO --- EXPBUS	5. Top management is experienced in international business (KC)	Adopted
	IEO --- MKTIIB	6. Marketing of many products in international markets (KC)	Adapted
	IEO --- HIRISK	7. Proclivity for high risk projects with chances of high returns (KC)	Adopted
	IEO --- SUCINT	8. Management goes to great lengths to be successful internationally (KC)	Adopted
	IEO --- VISDRI	9. Vision and drive are important for international business decisions (KC)	Adopted
Technology-related international vision TRIV (F2) Nummela, Saarenketo and Puumalainen (2004) (NSP)	TRIV --- SERINC	1. Committed to servicing international customers (NSP)	Adapted
	TRIV --- RESINT	2. Commits human and financial resources to international markets (NSP)	Adapted
	TRIV --- GROWTH	3. Emphasises the importance of growth to employees (NSP)	Adapted
	TRIV --- IEXPIM	4. International experience is viewed as important (NSP)	Adapted
	TRIV --- ACHIEV	5. Views Internet internationalisation as achievable (NSP)	Adapted
International business experience IBE (F3) Loane (2006)	IBE --- YEAREX	1. The number of years of experience related to exporting	Adopted
	IBE --- NUMVEN	2. The number of previous entrepreneurial ventures	Adopted
	IBE --- EDUCAT	3. Highest level of education	Adopted
Internet, international marketing capabilities IIMC (F4) Zhu and Kraemer (2002) (ZK) Aspelund and Moen (2004) (AM) Gibbs and Kramer (2004) (GK) Liao, Kickul and Ma (2009) (LKM) Reuber and Fischer (2011) (RF) <i>Conceptual work</i>	IIMC --- INTUSE	1. Internet usage: Email applications (GK), website (GK), advertising and marketing (GK), online sales (GK, AM), after sales service (GK), market research (AM), identify foreign competitors (AM), software development.	Adapted
	IIMC --- LEVTEC	2. Ability to leverage technology (ZK)	Adapted
	IIMC --- TECPEF	3. Technology and performance variables (RF)	Adapted
	IIMC --- RENTRC	4. Renewal of technology-related capabilities (ZK)	Adapted
	IIMC --- INVIOC	5. Investment in Internet operational capabilities (LKM)	Adapted
	IIMC --- TECINF	6. Technological infrastructure to engage in Internet initiatives (LKM)	Adapted
International virtual networking capabilities IVNC (F5) Wu, Mahajin and Balasubramanian (2003) (WMB) Conceptual work of Loane (2006) (L)	IVNC --- CUSREL	1. Maintaining international customer relationships (WMB)	Adapted
	IVNC --- EXIREL	2. Strengthening the existing relationships (WMB)	Adapted
	IVNC --- LONGRE	3. Develops longer lasting relationships (WMB)	Adapted
	IVNC --- ACQNEW	4. Acquiring new international customers (L)	Adapted
	IVNC --- NEWMAR	5. Entering new international markets (L)	Adapted
IVNC --- NINTPE	6. Enhancing the firms international performance (L)	Adapted	
International entrepreneurial opportunity recognition IEOR (F6) Lumpkin & Lichtenstein (2005) (LL) Dimitratos, Voudouris, Plakoyiannaki & Nakos (2012) (DVPN)	IEOR --- ACTIVE	1. Firm actively seeks out new Internet, international opportunities (DVPN)	Adapted
	IEOR --- RESEXP	2. Investing resources to exploit opportunity	Adapted
	IEOR --- PUORPP	3. Pursuing international opportunity regardless of resources	Adapted
	IEOR --- PROEVL	4. Processes to evaluate effectiveness of international market activity (DVPN)	Adapted
	IEOR --- ADDVAL	5. International opportunity recognition adds value (LL)	Adapted
International market performance IMP (F7) Moen, Masden & Aspelund (2008) (MMA) Nummela, Saarenketo and Puumalainen (2004) (NSP) Jantunen, Puumalainen and Saarenketo (2005) (JPS)	IMP --- MRKSHA	1. Market share (MMA)	Adopted
	IMP --- SALGROW	2. Sales growth (MMA)	Adopted
	IMP --- SALGVC	3. Sales growth vs. competitors (MMA)	Adopted
	IMP --- INTPRO	4. International profitability objectives (MMA)	Adopted
	IMP --- OPERAS	5. Overall performance assessment (MMA)	Adapted
	IMP --- SATIAC	6. Satisfaction with international activities (JPS)	Adapted

Note. Adopted = Adopted without any modifications and Adapted = Modified with the core concept intact.

5.6 Conclusion

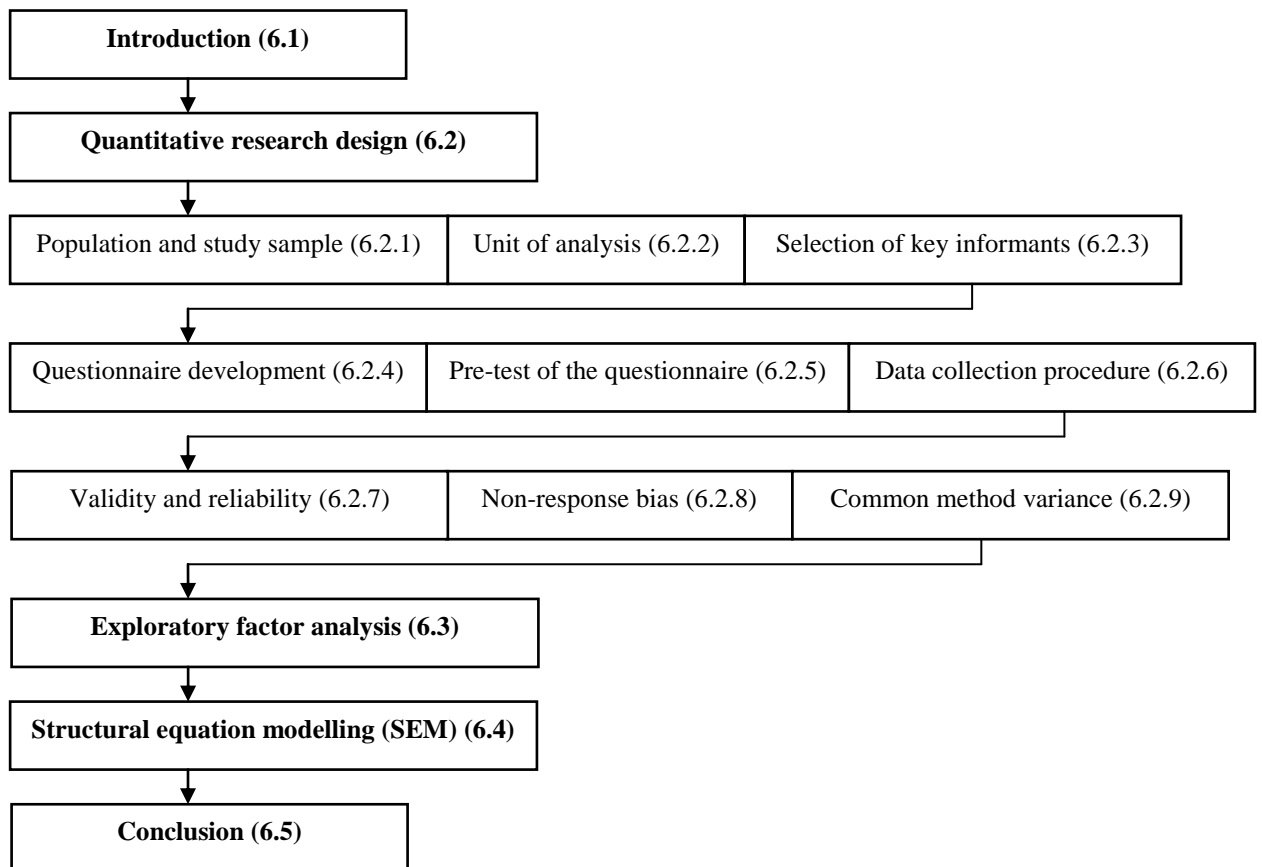
Chapter Five provided a comprehensive discussion of the hypothesised relationships between the firm-level resources and the capabilities that are expected to be related to the firm's pursuit of opportunities and international market performance in an Internet environment. Chapter Five presented the full hypothesised model for testing of the key inter-relationships between resources and firm-level capabilities. The full hypothesised model exhibited three firm-level resources; *International entrepreneurial orientation*, *technology-related international vision* and *international business experience*, and three capabilities; *International virtual networking capabilities*, *international entrepreneurial opportunity recognition* and *Internet, international marketing capabilities*. Study Two will quantitatively test the full hypothesised model developed from the findings of Study One. Chapter Six will outline the quantitative methodology utilised to test the proposed model of firm-level resources and Internet capabilities.

CHAPTER SIX: QUANTITATIVE METHODOLOGY: STUDY TWO

6.1 Introduction

Chapter Six outlines the quantitative methodology for Study Two. The research design and analytical techniques used in Study Two are explained and justified. In Chapter Six, the population and study sample is addressed, as well as the unit of analysis, selection of key informants, pre-test of the questionnaire, data collection procedures, validity and reliability, non-response bias, and common method variance. Further, the EFA and the justification for the use of structural equation modelling is outlined, along with concluding comments of the chapter. A diagrammatic overview of Chapter Six can be seen in Figure 6.1.

Figure 6.1 Diagrammatic overview of Chapter Six



6.2 Quantitative research design

Denzin and Lincoln (1994) suggest that the basic beliefs of alternative inquiry paradigms exist along a continuum. This research falls within the postpositivism research paradigm, which is a rejection or modification of numerous core beliefs of positivism (Onwuegbuzie et al., 2009). The postpositivism paradigm relies on multiple methods as a way of capturing as much of reality as possible, while emphasising the discovery and verification of theories (Denzin & Lincoln, 2011). Based on this view, the postpositivism paradigm extends beyond relativism, but retains the idea of objective truth (Denzin & Lincoln, 1994). In Study Two, quantitative data was collected to test the model of firm-level resources and Internet capabilities established in Chapter Five. The aim of employing a quantitative approach in Study Two is to confirm the key interrelations in the hypothesised model of firm-level resources and Internet capabilities. This deductive approach therefore sought to quantify specific relationships through statistical analysis, where hypotheses are either supported or not supported (Aker, Kumar, Day & Lawley, 2005).

The following research discussion will outline the population and sample of this study, the unit of analysis, selection of key informants, pre-testing procedures, data collection procedures, response rates, non-response bias, analysis of the quantitative data presented, an EFA, and the structural equation model. Firstly, the population and sample of this study will be discussed.

6.2.1 Population and study sample

Research Study Two focuses on individual Australian SMEs that have engaged in international market activity. This study is focused on a single country, and population parameters were limited and confined only to Australian firms that are international. Considering that a large sample of international entrepreneurial SMEs was required for Study Two, the Australian Trade Commission (Austrade) database provided an appropriate means of sourcing Australian firms engaged in international activities. The Austrade database is the Australian Government's trade, investment and education promotion agency (Austrade, 2012), assisting Australian SMEs to grow their

business into international markets. Given that the Austrade database provides a creditable and comprehensive overview of Australian exporting SMEs, the use of this database in this study is justified. An extensive manual data retrieval process was conducted to gather the contact information of Australian international entrepreneurial firms eligible to participate in this research. The data retrieval process included the development of an Excel spreadsheet, which contained information about the firms eligible to participate in the research as well as their contact details. Given that 2,322 firms were called and encouraged to pre-screen and participate in the research, the spreadsheet also assisted in the management of firms, ensuring businesses were not contacted on more than one occasion. An overview of the sample selection pool utilised in this study can be seen in Table 6.1.

Table 6.1 Sample selection pool from the Austrade database

Selected industry	Contacted	Eligible	Response rates
Consumer Goods (1,730)	732	421	75 firms *23 cases removed
Information Communication Technology (1,020)	141	82	8 firms *1 case removed
Manufacturing (2,864)	860	320	89 firms
Professional Business Services (1,622)	522	673	50 firms *9 cases removed
Tourism (203)	67	98	19 firms
Total firms: 7,439 firms	2,322 firms called and screened to participate	1,594 firms eligible to participate 'yes' : 947 'no' : 647	Data cleaning eliminated: 33 cases Eligible 'yes' responses to the questionnaire: 947 (removal of 33 cases left 914 cases) Total responses: 241 responses Final responses: 208 (after data cleaning) Response rate: 22.75 %

*Note. *A total of 33 cases were removed from the sample due to owner/founders not completing the questionnaire. Data cleaning left 208 cases, all of which are owner/founders of the firm.*

The sample selection pool in Table 6.1 includes the industries represented in the questionnaire sample, in conjunction with the number of firms from selected industries contacted, the number of eligible responses and the final response rate after data cleaning. This study also includes respondents from the consumer goods sector, information communication technology, manufacturing, professional business services and tourism. These five industries were chosen because they rank among Australia's top 25 export industries (ABS, 2011). For example, consumer goods is one of Australia's most dynamic export industries, representing A\$13.1 billion in 2010-2011 (ABS, 2012). Australia's

ICT market is worth A\$100 billion and is the fifth largest in the Asia-Pacific region, employing 400,000 people (Austrade, 2010). Exports of goods from manufacturers totalled A\$41.7 billion, a 13.3% share of the export sector (Austrade, 2012). The professional business services sector totalled A\$3.2 billion in 2010-2011 (ABS, 2012). In 2010-2011, tourism contributed A\$23.7 billion to Australia's export earnings, a share of 8% of total export earnings for all goods and services (Department of Resources, Energy and Tourism, 2012). Tourism's total contribution to Australia's GDP in 2010-2011 was A\$73.3 billion, a 5.2% share of Australia's economy. In addition, the industry employed 907,100 people representing 7.9% of Australia's total employment. Along with education, tourism is Australia's leading services exporter (Department of Resources, Energy and Tourism, 2012). Further, these five industries collectively are worth more than \$181 billion to Australia's export performance, and account for more than 80% of all exports.

A total of 7,439 firms were included in the sample frame for Study Two. The Austrade database provided the firms' contact information, including company name, the owner or best contact for the firm, the role of the individual contact, email and postal address, phone number, the product or service offering details, and information about the export history of the firm. For data management purposes, all firms eligible to participate in the research were listed in an Excel spreadsheet. Every second firm in the export spreadsheet was telephoned and encouraged to screen for participation in the research. A total of 2,322 firms were phoned and screened for eligibility as well as encouraged to participate in the study. Duplication in firm contacts was avoided by a manual cross-check of the 2,322 firms, through the spreadsheet and hardcopy printouts of the company profiles. A total of 1594 firms were eligible to participate in the research. That is, these 1594 firms indicated that they were active in export behaviour. A total of 947 firms indicated 'yes', that they would participate in the questionnaire, and 647 indicated 'no'. A total of 947 firms were eligible to participate in the questionnaire. A total of 241 responses was achieved initially, data cleaning eliminated 33 cases, due to the failure of an owner/founder to complete the survey. The final number of completed questionnaires was 208, a response rate of 22.75%.

6.2.2 Unit of analysis

For the purpose of Study Two, international entrepreneurs from Australian SMEs were selected to participate in the questionnaire. Research papers in international business have argued that the international entrepreneur can be seen as the single representative of the firm in relation to internal decision-making processes (Jantunen et al., 2005; Loane, 2006; Mostafa et al., 2006). This is because decision-making power within SMEs is generally concentrated in the hands of one or very few people (Reid, 1981). For instance, owner/founders are generally the principal force behind the initiation, development, sustenance and success of SME internationalisation (Chetty & Hamilton, 1993; Hutchinson et al., 2006). Therefore, only owner/founders of international entrepreneurial SMEs were accepted to participate in this research.

6.2.3 Selection of key informants

The selection of key informants was conducted in accordance with Huber and Power's (1985) guidelines in determining the appropriateness of informants for questionnaires. Huber and Power (1985) suggest that an attempt should be made to identify the person most knowledgeable in regards to the issue of interest. In this study, only the owner/founder who possessed knowledge related to the firm's resources and capabilities were required to complete the online questionnaire. That is, only those data-rich international entrepreneurs with the capacity to communicate and articulate the firm's perspective through a questionnaire format are appropriate for the study. As informants will be largely chosen on the basis of their organisational title (Seidler, 1974), it is also imperative to ascertain whether the person holding the title carries out the duties as outlined in the questionnaire (Huber & Power, 1985). It is also important to note that informants are asked to verify responses with another firm employee, such as the chief financial officer, if the need arises.

The necessity for honesty and accuracy in the responses provided by the informants was impressed upon entrepreneurs before they began completing the questionnaire. For example, informants were reminded that 'accuracy and honesty in their answers will assist in building theory and a better understanding of how firms are using their resource

and capability base to achieve successful international market performance'. The questionnaire can be seen in Appendix 2.

6.2.4 Instrument development

More general questions were placed at the beginning of the questionnaire to increase respondents' confidence (Lumsden, 2007), ensuring that participants would proceed with the questionnaire. The format of the questions was considered important given that international entrepreneurs were asked to reveal firm performance and financial indicators. The items in the questionnaire were divided across pages to encourage survey pacing (Malhotra, 2008), and also to decrease the likelihood of respondents missing information by scrolling (Lumsden, 2007). However, it is important to note that participants could not proceed to a question until the previous question had been completed. A simple questionnaire design was employed to minimise the download time and reduce the possibility of questionnaire abandonment (Dillman, 2011).

6.2.5 Pre-test of questionnaire

Before administering the online questionnaire via the Key Survey online questionnaire platform, it was necessary to pre-test the instrument. The systematic process of pre-testing a questionnaire instrument is central to the planning and implementation of a reliable questionnaire (Malhotra, 2008; Hair, Black, Babin & Anderson, 2010). Pre-testing the questionnaire is critical for identifying issues such as misinterpretation or confusion with the overall meaning of questions. To pre-test the questionnaire a panel of six academics were recruited to review the instrument. Three of these academics were experts in the field of international business and entrepreneurship, and were familiar with the questionnaire content. Three academics were not familiar with the content of the questionnaire, but provided feedback on the on the structure and overall design of the instrument. The expert reviews of the questionnaire can be seen in Appendix 3. Managers from a total of 10 Australian SMEs engaged in international activity were also recruited to informally review the questionnaire. The first 100 questionnaires were also utilised to pre-test the instrument. The pre-test of the questionnaire revealed minor modifications

were necessary to re-word questions difficult to interpret. These key changes were modified in the questionnaire, and again pre-tested to ensure no issues were apparent.

6.2.6 Data collection procedure

The questionnaire instrument was administered only via the Key Survey online platform. Key Survey is an online survey creation tool that allows researchers to create and distribute surveys and sort response data. The Key Survey online platform was deemed appropriate in gaining responses from a large number across Australia. A total of 947 firms were initially sent a link to the online survey via email (see Appendix 4), and telephoned to encourage to screen for participation in the study (see Appendix 5).

Critical to data collection procedure is the questionnaire design. Churchill's (1979) seminal paper critiques the scale development process and also provides a structured approach to questionnaire design through developing measures. Firstly, step one is to specify Study One. This involved establishing and defining the constructs and parameters included in each construct. Secondly, Churchill (1979) recommends generating a sample of items from multiple sources. In this study the multiple sources included a literature review and multiple case studies. In this research a set of items was also established, drawing upon the full hypothesised model. The questionnaire in this study was also pre-tested as per Churchill (1979) and Bagozzi's (1994) recommendation to pre-test the items in the questionnaire, ensuring content and construct validity. Next, the items are subject to data collection. Churchill (1979) recommends purification of the measures. In this study, examination of the internal consistency utilising Chronbach's alpha was conducted in association with the elimination of items on the basis of the EFA.

Sources of information

The construct specification as shown in Table 6.2 was drawn from a convergence of a literature review and the data collected in Study One. Primarily, Likert scales were employed with a number of scale anchors utilised. The scale anchors utilised included the following: (1) strongly agree – (7) strongly disagree; (1) limited use – (7) extensive use; (1) significantly increased – (7) significantly decreased; (1) satisfied – (7) dissatisfied,

and (1) not at all important – (7) extremely important. The question, construct, scale and measure of each item is shown in Table 6.2 below.

Table 6.2 Questionnaire construct specification

Number	Scale	Description and measure
Pre-survey question Q1	Nominal	Do you own a business? (yes) (no)
Pre-survey question Q2	Nominal	Is the firm Australian owned? (yes) (no)
Pre-survey question Q3	Nominal	Are you Australian? (yes) (no)
Pre-survey question Q4	Nominal	Are you the founder of the business? (yes) (no)
Pre-survey question Q5	Nominal	How many employees does your business have? (yes) (no)
PART A. International entrepreneurial orientation. Scale: (1 strongly agree – 7 strongly disagree) (Independent variable Factor 1)		
Part A Q6 (IEOQ6)	Interval	The firm tends to see the world as the firm's marketplace.
Part A Q7 (IEOQ7)	Interval	The culture at our firm is to actively explore new business opportunities internationally.
Part A Q8 (IEOQ8)	Interval	The firm continuously communicates its mission to succeed in international markets.
Part A Q9 (IEOQ9)	Interval	The firm develops resources (such as financial and human) for achieving our goals in international Markets.
Part A Q10 (IEOQ10)	Interval	The firm is experienced in international business.
Part A Q11 (IEOQ11)	Interval	Over the past 5 years, our firm has marketed many products in international markets.
Part A Q12 (IEOQ12)	Interval	In international markets, the firm has a tendency to take on high-risk projects.
Part A Q13 (IEOQ13)	Interval	The firm is willing to go to great lengths to make our products succeed in international markets.
Part A Q14 (IEOQ14)	Interval	The drive of managers in the firm is important in our decision to enter international markets.
PART B. Technology –related international vision. Scale: (1 strongly agree – 7 strongly disagree) (Independent variable Factor 2)		
Part B. Q15 (TRIVQ15)	Interval	The firm is committed to servicing international customers on the Internet.
Part B. Q16 (TRIVQ16)	Interval	The firm commits sufficient human (e.g. staff) and financial resources (e.g. capital) to technology for International market(s).
Part B. Q17 (TRIVQ17)	Interval	The firm emphasises the importance of technology for international growth.
Part B. Q18 (TRIVQ18)	Interval	The firm views managerial technology experience as important for entering international market(s).
Part B. Q19 (TRIVQ19)	Interval	The firm views international growth through the Internet as achievable.
PART C. International business experience (Independent variable Factor 3)		
Part C. Q20 (IBEQ20)	Interval	Please indicate the number of years' experience related to export work you have as an owner/founder. (1 none, 2 1-2 years, 3 2-3 years, 4 4-5 years, 5 5-6 years, 6 7-8 years, 7 8 years or more)
Part C. Q21 (IBEQ21)	Interval	What is the number of previous entrepreneurial ventures where you have played similar management role? (1 none, 2 1-2 years, 3 2-3 years, 4 4-5 years, 5 5-6 years, 6 7-8 years, 7 8 ventures or more)
Part C. Q22 (IBEQ22)	Interval	What is your highest level of education? (1 no formal education, 2 high school, 3 certificate level, 4 TAFE/technical college equivalent, 5 undergraduate university study, 6 postgraduate university study, 7 doctoral degree)
PART D. Internet, international marketing capabilities (Independent variable Factor 4)		
Part D. Q23 (IIMCQ23)	Interval	Please indicate your Internet usage - email, official company website, advertising and marketing, online sales, after sales service, market research, identify competitors, in-house software development (1 limited use – 7 extensive use)
Part D. Q24 (IIMCQ24)	Interval	Please indicate how much time is devoted in your firm to the strategic use of the Internet through the following categories. Please indicate the percentage in the space provided. Categories - email, official company website, advertising and marketing, online sales, after sales service, market research, identify competitors, in-house software development. (All categories must add up to 100%)
Part D. Q25 (IIMCQ25)	Interval	Ability to leverage technology is important in my firm. (1 strongly agree – 7 strongly disagree)
Part D. Q26 (IIMCQ26)	Interval	Renewal of technology is important in my firm. (1 strongly agree – 7 strongly disagree)

Number	Scale	Description and measure
Part D. Q27 (IIMCQ27)	Interval	Investment in technology has led to greater international sales. (1 strongly agree – 7 strongly disagree)
Part D. Q28 (IIMCQ28)	Interval	The firm has strong IT operations capabilities. (1 strongly agree – 7 strongly disagree)
Part D. Q29 (IIMCQ29)	Interval	The firm has the technological infrastructure and competencies to engage in e-commerce initiatives. (1 strongly agree – 7 strongly disagree)
PART E. International virtual networking capability. Scale: (1 strongly agree – 7 strongly disagree) (Independent variable Factor 5)		
Part E. Q30 (IVNCQ30)	Interval	The firm uses the Internet to maintain international customer relationships.
Part E. Q31 (IVNCQ31)	Interval	The firm uses the Internet to strengthen existing international relationships.
Part E. Q32 (IVNCQ32)	Interval	The firm uses the Internet to develop longer lasting international relationships.
Part E. Q33 (IVNCQ33)	Interval	The firm uses the Internet to acquire new international customers.
Part E. Q34 (IVNCQ34)	Interval	The firm uses the Internet to enter new international country market(s).
Part E. Q35 (IVNCQ35)	Interval	The firm uses the Internet to enhance our firm's international performance.
PART F. International entrepreneurial opportunity recognition. Scale: (1 strongly agree – 7 strongly disagree) (Independent variable Factor 6)		
Part F. Q36 (IEORQ36)	Interval	The firm actively seeks out new international market opportunities.
Part F. Q37 (IEORQ37)	Interval	When we see a new international market opportunity we invest resources to exploit the new international opportunity.
Part F. Q38 (IEORQ38)	Interval	We pursue international opportunities regardless of the resources the firm may or may not have.
Part F. Q39 (IEORQ39)	Interval	The firm has many formal or informal processes that evaluate the effectiveness of its activities in international markets.
Part F. Q40 (IEORQ40)	Interval	We believe that recognising international opportunities and exploiting these opportunities adds value to the firm.
PART G. International market performance (Independent variable factor 7)		
Part G. Q41 (IMPO41)	Interval	Please indicate the extent of an increase or decrease since internationalisation on international market share. (1 significantly increased – 7 significantly decreased)
Part G. Q42 (IMPO42)	Interval	Please indicate the extent of an increase or decrease since internationalisation on international growth.. (1 significantly increased – 7 significantly decreased)
Part G. Q43 (IMPO43)	Interval	Please indicate the extent of an increase or decrease since internationalisation on international sales growth vs. competitors. (1 significantly increased – 7 significantly decreased)
Part G. Q44 (IMPO44)	Interval	Please indicate the extent of an increase or decrease since internationalisation on International profitability. (1 significantly increased – 7 significantly decreased)
Part G. Q45 (IMPO45)	Interval	Please indicate the extent of an increase or decrease since internationalisation on overall international performance. (1 significantly increased – 7 significantly decreased)
Part G. Q46 (IMPO46)	Interval	How satisfied have you been with your international activities during the last five years? (1 dissatisfied– 7 satisfied)
Part G. Q47 Product marker variable	Interval	The following questions concern your firm's product characteristics. Please indicate by selecting the appropriate box. In my firm the company's product/s are classified as sophisticated, complex in nature, need(s) specialised know how to market, takes(s) a long time to learn about, has/have a large proportion that is technological in nature, need(s) a high level of specialised service. (1 strongly agree – 7 strongly disagree)
PART H. Demographic information and general business background		
Part H. Q48	Nominal	What is your age?
Part H. Q49	Nominal	What is your gender?
Part H. Q50	Nominal	My business sells products or services?
Part H. Q51	Nominal	The industry our firm operates in is?
Part H. Q52	Nominal	What percentage of the firm's total gross sales generated from international customers over the last 12 months?
Part H. Q53	Nominal	What is the firm's total revenue of sales generated from international customers over the last 12 months?
Part H. Q54	Nominal	What year was your business established?
Part H. Q55	Nominal	What is the number of countries you currently have customers in?
Part H. Q56	Nominal	In what year did you gain your first international market?
Part H. Q57	Nominal	What was the first international country your firm exported to?
Part H. Q58	Nominal	What are the top five international countries you export to?
Part H. Q59	Nominal	What is your firm's postcode?
Part H. Q60	Open	Do you have any further questions or information you would like to provide the research team?

Intervening variables

The first intervening variable, as seen in Table 6.2, is international entrepreneurial orientation, where questions were asked concerning the firm's innovativeness, proactiveness and risk-taking propensities. Explicit questions related to the firm's international entrepreneurial orientation are posed in questions Q6 to Q14, Part A of the questionnaire. The scale anchors utilised were derived from a seven-point Likert scale, (1) strongly agree – (7) strongly disagree, the measures of which are adopted from the work of Knight and Cavusgil (2004), which draws from Khandwalla (1977), Miller and Friesen (1984), and Covin and Slevin (1989).

The second intervening variable is technology-related international vision. Questions were asked in relation to the firm's commitment to international customers, the resources committed to international business, the importance for technology and international growth, and managerial technology experience. Explicit questions associated with technology-related international vision are posed in questions Q15 to Q19, Part B of the questionnaire. The scale anchors used included were derived from a seven-point Likert scale including: (1) strongly agree – (7) strongly disagree. The measures have been adapted from the work of Nummela et al. (2004). It is important to note that all adaptations of the measures were made ensuring the core concept of the item remained intact. That is, only minimal changes were made to the measures on the basis of the context of the research, which is the international environment in which these firms operate.

The third intervening variable is international business experience. Questions related to international business experience included the years of experience related to export activities, the number of previous entrepreneurial ventures, and level of education of the international entrepreneur. Explicit questions of international business experience were posed in questions Q20 to Q22, Part C of the questionnaire. The scale anchors as seen in Table 6.3 have been adapted from the work of Loane (2006).

Table 6.3 Items and scale anchors for international business experience

Item	Scale anchor utilised
Years of experience in exporting	(1) none (2) 1-2 years (3) 2-3 years (4) 4-5 years (5) 5-6 years (6) 7-8 years (7) 8 or more years
Number of previous entrepreneurial ventures	(1) none (2) 1-2 years (3) 2-3 years (4) 4-5 years (5) 5-6 years (6) 7-8 years (7) 8 or more years
Highest level of education	(1) no formal education (2) high school (3) certificate level (4) TAFE/technical college equivalent (5) undergraduate university study (6) postgraduate university study (7) Doctorate degree

The fourth intervening variable is Internet, international marketing capabilities. Questions related to the firm's ability to integrate the Internet into the international business activities of the business were asked. Explicit questions related to Internet, international marketing capabilities within the firm were posed in questions Q24 to Q29, Part D of the questionnaire. The scale anchors used included: (1) strongly agree – (7) strongly disagree, and (1) limited use – (7) extensive use. These measures are adapted from the work of Zhu and Kramer (2002), Aspelund and Moen (2004), Gibbs and Kramer (2004) and Liao et al., (2009), with the core concept of the measure remaining intact.

The fifth intervening variable is international virtual networking capability. Questions were related to the firm's use of the Internet for maintaining customer relationships, strengthening existing relationships, developing longer lasting networks, acquiring new customers, entering new international markets, and enhancing the firm's performance. Explicit questions were posed in questions Q30 to Q35, Part E of the questionnaire. The scale anchors were derived from a seven-point Likert scale including: (1) strongly agree – (7) strongly disagree. The measures were adapted from the work of Wu et al. (2003) and Loane (2006), with the core concept of the measure remaining intact.

The sixth intervening variable is international entrepreneurial opportunity recognition. Questions asked related to the firm's ability to seek out new international opportunities in an Internet space, the ability of the firm to invest resources to exploit opportunity, the processes in place to evaluate the effectiveness of international market activity, and international opportunity as adding value to the firm. Explicit questions were posed in questions Q36 to Q40, Part F of the questionnaire. The scale anchors are adapted from a seven-point Likert scale including: (1) strongly agree – (7) strongly disagree. The measures were adapted from Lumpkin and Lichtenstein (2005) and Dimitratos et al. (2012).

Dependent outcome variable

The last variable to be considered is the dependent variable, international market performance. The international market performance variable is central to the model as the variable measures the output performance of the firm. International market performance was measured by the extent of the decrease or increase in market share, sales growth, sales growth versus competitors, international profitability and overall international performance since internationalisation, as well through an assessment of the firm's overall satisfaction with international activities during the last five years. Explicit questions were posed in questions Q41 to Q46, Part G of the questionnaire. The scale anchors were derived from a seven-point Likert scale including: (1) significantly increased – (7) significantly decreased, and (1) satisfied – (7) dissatisfied. The measures have been both adopted intact and adapted from the work of Moen, Masden and Aspelund (2008), Nummela et al. (2004) and Jantunen et al. (2005).

6.2.7 Evaluation of reliability and validity

Content validity

Content validity refers to the extent to which a measure represents all facets of a given construct (Hair et al., 2010), and that the measures represent adequately the set of item indicators intended (Sekaran, 2000). A number of steps to ensure content validity were actioned. Firstly, a review and synthesis of the literature pertaining to IE and the Internet

within international business studies was conducted in Chapter Two. Secondly, multiple case study analysis in Chapter Four assisted in the confirmation and refinement of constructs. Thirdly, the questionnaire was developed from the findings of the data in Chapter Four and was initially pre-tested with both academics and international entrepreneurial business owners. Fourthly, an EFA and CFA were conducted. The CFA is explained further in Chapter Seven.

Construct validity

Construct validity refers to whether a scale measures or correlates with the actual construct being investigated (Hair et al., 2010). Thus, construct validity is also the degree to which inferences can be made legitimately from the operationalisation of the constructs. Construct validity can be assessed by convergent and discriminant validity. *Convergent validity* refers to the degree to which two measures of constructs that theoretically should be related are actually related (Churchill, 1979; Hair et al., 2010). In this study, convergent validity was measured using the scores obtained from two different instruments measuring the same concept to indicate whether the constructs were positively related. The data analysis in Chapter Six was utilised to assist in the identification of similar scale measures, which are addressed in the EFA and CFA. *Discriminant validity* by contrast tests whether concepts or measurements that are supposed to be unrelated are actually unrelated (Hair et al., 2010). That is, discriminant validity is the degree to which a measure is different from others and the extent to which the measure is novel or different (Churchill, 1979). In this study data analysis was utilised to distinguish accurate measures for specific constructs, which are evaluated in the EFA and CFA.

Reliability

Reliability is the degree to which the observed variable measures the 'true' value and is 'error free' (Hair et al., 2010). Reliability indicates the extent to which a measure is free from bias and offers consistent stable measures across time within questionnaire items (Churchill, 1979). To ensure reliability of the questionnaire, interval scales were utilised predominantly throughout with limited use of ratio or nominal scales. The constructs

were also operationalised with multiple indicators as opposed to a single-measure item (Churchill, 1979). To increase reliability, the questionnaire was also pre-tested and modified according to feedback from academics and international entrepreneurial owner/founders.

6.2.8 Non-response bias

Non-response bias refers to the bias that exists when respondents to a questionnaire are different from those that did not respond in terms of demographic and attitudinal variables (Sax, Gilmartin & Bryant, 2003). There are a number of ways to address and overcome the issues associated with non-response bias (Armstrong & Overton, 1977). Firstly, Study Two utilised the government-founded Austrade database to recruit respondents. An independent data source (Australian Bureau of Statistics) was utilised to assess respondent characteristics so as to establish a respondent sample that is representative of the broader Australian SME population.

Both geographical locations by postcode and size of the firm were utilised (Wickramasekera & Oczkowski, 2006). That is, selection of firms by postcode and size of the firm will ensure that equal amounts of small- and medium-sized firms will be eligible to participate in the questionnaire. For example, the Australian Bureau of Statistics (2010-2011) indicates that 33.14% of businesses are located in New South Wales (NSW), and the questionnaire closely aligned with 34.13% of respondents. Businesses located in Victoria (VIC) account for 25.51% of businesses (33.17% of responses); 20.19% of businesses are located in Queensland (28.37% of responses); South Australian (SA) businesses account for 6.95% (2.40% of responses); Western Australian (WA) businesses account for 10.44% (1.92% of responses). The postcode characteristics of the questionnaire responses in Table 6.4 are representative of the counts of Australian business by main state.

Table 6.4 Postcode characteristics of the survey responses

Postcode	ABS Statistics* (2008-2009)	ABS Statistics* (2009-2010)	ABS Statistics* (2010-2011)	Responded	Percentage (%)
NSW	33.15%	33.17%	33.14%	71	34.13%
VIC	25.13%	25.30%	25.51%	69	33.17%
QLD	20.52%	20.39%	20.19%	59	28.37%
SA	7.04%	7.00%	6.95%	5	2.40%
WA	10.40%	10.04%	10.44%	4	1.92%
TOTAL	-	-	-	208	100%

Source: *(ABS 2012).

The respondents contacted to complete the online questionnaire were also representative of the industry proportions eligible and accepted to participate in the research. There was similarity in those who were eligible and accepted to participate and those that actually participated in all industry sectors. For example, consumer goods accounted for 24.08% of all firms eligible and accepted to participate, and 25% of all firms responded. Information communication technologies accounted for 2.01% of firms and 3.37% of firms responded, indicating that information communication technologies are proportionate to the industry. The manufacturing industry accounted for 42.03% of firms and all 42.79% of firms responded to the questionnaire. In the professional business services sector, 23.02% of firms were eligible and accepted to participate and 19.71% of firms responded. The tourism sector accounted for 8.87% of eligible and accepted responses and all 9.13% of firms responded to the questionnaire. The findings of Table 6.5 indicate that the responding firms in this research that were eligible and accepted to participate in the questionnaire were representative of the industry proportions. Therefore, non-response bias is reduced.

Table 6.5 Representative industry proportions

Industry	Accepted	Percentage (%)	Responded	Percentage (%)
Consumer goods	228	24.08%	52	25.00%
Information communication technology	19	2.01%	7	3.37%
Manufacturing	398	42.03%	89	42.79%
Professional business services	218	23.02%	41	19.71%
Tourism	84	8.87%	19	9.13%
TOTAL	947 eligible	100%	208 responses	100%

Lastly, non-response bias was evaluated utilising a two-tail T test. The process of using an extrapolation method, such as a two-tail T test, also ensures that the data set will be similar with respect to those respondents who submitted early and those respondents who submitted late with coaxing (Armstrong & Overton, 1997). Estimating non-response bias by equating individuals who responded later in the administration period with non-respondents, then comparing with the early respondents to determine types of bias, is considered to be an appropriate method for estimating non-response bias (Hutchinson, Tollefson & Wigington, 1987; Sax et al., 2003).

Non-response bias was evaluated using the extrapolation method of a two-tail T test (Hair et al., 2010). The two-tail T test indicated that only international business experience shows a non-significant difference. The literature acknowledges that many factors will impact a firm's performance, and that experience is not necessarily the strongest of these factors (Reuber & Fischer, 1999). The measurement of international business experience is often fragmented and inconclusive (Reuber & Fischer, 1999). In particular, the international business experience construct is most often utilised in more traditional, generic models of internationalisation. The results of the two-tail T test indicate that the construct does not fit well with the other key factors. The significance two-tail test for non-response bias is shown in Table 6.6.

Table 6.6 Significance two-tail test for non-response bias

Factor	Factor label	Factor code	Item code	Question	Sig. Two- tail	Analysis
Factor 1	International entrepreneurial orientation	IEO	WWORLD	Q6 (1)*	.016	<i>sig.</i>
Factor 2	Technology-related international vision	TRIV	SERINC	Q15 (1)*	.002	<i>sig.</i>
Factor 3	International business experience	IBE	YEAREX	Q20 (1)*	.546	<i>not sig.</i>
Factor 4	Internet, international marketing capabilities	IIMC	LEVTEC	Q25 (1)*	.004	<i>sig.</i>
Factor 5	International, virtual networking capability	IVNC	CURSEL	Q30 (1)*	.048	<i>sig.</i>
Factor 6	International entrepreneurial opportunity recognition	IEOR	ACTIVE	Q36 (1)*	.029	<i>sig.</i>
Factor 7	International market performance	IMP	MRKSHA	Q41 (1)*	.001	<i>sig.</i>

*Note. *Only question (1) was utilised in significance two-tail test for non-response bias. Question (1) of each construct in the questionnaire is also noted.*

6.2.9 Common method variance

Common method variance is an increasingly important issue faced by many researchers in the international business field (Chang, van Witteloostuijn & Eden, 2010). Common method variance is defined as the ‘variance that is attributable to the measurement method rather than to the constructs the measures represent’ (Podsakoff, MacKenzie, Yeon Lee & Podsakoff, 2003, p. 879). Common method variance can create a false internal consistency, an apparent correlation among variables generated by their common source (Chang et al., 2010). For example, Chang et al. (2010) highlight that common method variance can occur if the researcher asks respondents to evaluate a firm’s organisational capabilities and international market performance in the same questionnaire. Considering that Study Two utilised a single respondent and both the independent and dependent variables are measured at one point in time, it is necessary to investigate the potential of common method variance, as bias can lead to a distortion or inflation of the correlations presented. A number of considerations have been taken into account in dealing with common method variance. First, the reliability of the questions presented in the questionnaire were validated and therefore verified by five co-researchers.

To overcome the issue of common method variance, a seven-point Likert scale was employed and a number of scale anchors utilised. The scale anchors utilised in the seven-point Likert scale included: (1) strongly agree – (7) strongly disagree, (1) limited use – (7) extensive use, (1) significantly decreased – (7) significantly increased, (1) satisfied – (7) dissatisfied, and (1) not at all important – (7) extremely important. Using differing scale anchors limits the potential for bias from common method variance. Separate questions for both the independent and dependent variables in this study were also asked in order to generate responses unique for each question. The measures utilised in this research have also been collated from a number of sources, thus limiting the common method bias in the procedural controls of the study (Podsakoff et al., 2003). By integrating a variety of questions into the questionnaire, the likelihood of common method bias is reduced (Podsakoff et al., 2003).

Respondents are also asked to answer all questions honestly and accurately and where necessary are urged to seek further information from a company representative to clarify responses. Informing respondents that there are no wrong or right answers in the questionnaire also diminishes the possibility of common method bias (Podsakoff et al., 2003; Chang et al., 2010). Protecting the anonymity of the respondent is also an additional procedure to reduce common method variance (Podsakoff et al., 2003). Participants in this research were informed that all information collected was anonymous and will be treated confidentially; the names of individuals and firms completing the questionnaire were also not required.

Podsakoff et al. (2003) also suggest the use of a Harman's Single-Factor Test, a technique most widely utilised by researchers to address the issue of common method variance. Lindell and Whitney (2001) suggest that when researchers are assessing correlations that have been identified as being highly vulnerable, such as those questions requiring self-reporting, a Correlated Marker Variable Technique should be utilised. The Correlated Marker Variable Technique utilised in this study is '*product characteristics*', theoretically not related to the constructs as presented in the model. The Harman's Single-Factor Test and the Correlated Marker Variable Technique are discussed further in Chapter Seven.

6.3 Exploratory factor analysis (EFA)

Chronbach's Alpha (α) coefficients for reliability and validity

Factor analysis is an interdependence technique where the primary purpose is to define the underlying structure among the variables in the analysis (Hair et al., 2010). Factor analysis is a data reduction technique whereby a large number of variables can be summarised into a more meaningful, smaller set of factors and used to identify inter-relationships between variables in a data set (Allen & Bennett, 2012). The test for internal consistency and reliability of the scale items was carried out using Chronbach's Alpha (α), following Churchill's (1979) suggestion that the test of alpha be the initial measure to assess the quality of the instrument. According to Anderson and Gerbing (1988), structural equation modelling consists of a two-step modelling approach including an EFA and CFA. The first step is to subject the items to an EFA prior to structural equation

modelling. The factors in the Chronbach's Alpha (α) coefficient output indicate values of ($\alpha < .7$) except for the international business experience factor.

The output indicates values of international entrepreneurial orientation (α .913), technology-related international vision (α .859), international business experience (α .376), Internet, international marketing capabilities (α .914), international virtual network capabilities (α .921), international entrepreneurial opportunity recognition (α .920), and international market performance (α .776). The Kaiser-Meyer-Olkin (KMO) measures sampling adequacy. Higher KMO values are more acceptable (Allen & Bennett, 2012); values (.5) or lower are unacceptable. The KMO values are above ($> .8$) except Factor 3: International business experience.

Given the Chronbach's Alpha (α) coefficient is at an unacceptable level, the KMO value for international business experience is also affected. This is because the international business experience construct is often not the strongest factor in determining the international market performance of the firm in more contemporary models of internationalisation (Reuber & Fischer, 1999). The KMO values for the remaining six factors are at acceptable levels: international entrepreneurial orientation (.890), technology-related international vision (.824), international business experience (.516*), Internet, international marketing capabilities (.844), international virtual network capabilities (.826), international entrepreneurial opportunity recognition (.874), and international market performance (.934). The reliability and internal consistency tests are presented in Table 6.7.

Table 6.7 Reliability and internal consistency tests

Factor	Factor name	Factor code	Number of items per factor	Chronbach's Alpha (α)	KMO
Factor 1	International entrepreneurial orientation	IEO	9	.913	.890
Factor 2	Technology-related international vision	TRIV	5	.859	.824
Factor 3	International business experience	IBE	3	.376	.516*
Factor 4	Internet, international marketing capabilities	IIMC	6	.914	.844
Factor 5	International virtual network capability	INVC	6	.921	.826
Factor 6	International entrepreneurial opportunity recognition	IEOR	5	.920	.874
Factor 7	International market performance	IMP	6	.934	.858

**Note. The Chronbach Alpha (α) and KMO indicate that the international business experience construct*

Bartlett's Test of Sphericity

Bartlett's Test of Sphericity indicates how suitable the data are for factor analysis. The test was utilised to examine the correlation matrix, which provides an assessment of the statistical correlation between factors, or the overall significance of all correlations within a correlation matrix (Hair et al., 2010). Bartlett's Test of Sphericity should be significant (Sig < 0.5) for factors to be considered appropriate for factor analysis (Allen & Bennett, 2012). In this study all the factors were considered to be significant (Sig < .5).

Factor loadings and the Kaiser-Meyer-Olkin measure of sampling adequacy

In assessing statistical significance Hair et al. (2010) note that a factor loading represents the correlation between an original variable and its factor. In determining the significance level for the interpretation of the loadings, an approach similar to determining the statistical significance of correlation coefficients was utilised. The KMO measure of sampling adequacy in Table 6.7 and the factor loadings in Table 6.8 will now be discussed in relation to the EFA in Table 6.8. Firstly, international entrepreneurial orientation will be discussed.

Factor 1: International entrepreneurial orientation indicates all items (IEO Q6 to Q14), as seen in Table 6.8 loaded together as a factor. That is, the multi-item factoring of these items represents the construct, international entrepreneurial orientation. The factor loadings are above ($> .5$) with the KMO measure of sampling adequacy at (.890). The KMO indicates the amount of variance in the data that can be explained by the factors (Allen & Bennett, 2012). Higher values are more appropriate, and values (.5) or lower are unacceptable. *Factor 2: technology-related international vision* indicates all items (TRIV Q15 to Q19) loaded together as a factor. The factor loadings are above (.6) and the KMO is (.824). *Factor 3: International business experience* factor loaded with two main items (IBE Q20 to Q21), with factor loadings (.710) and (.451). Item IBEQ22 indicated a factor loading of (.160). The KMO is (.516). Given that the measure of sampling adequacy indicates that values of ($> .5$) or lower are unacceptable and values of ($> .6$) or above are acceptable, the international business experience factor will be excluded from the model. This is because the international business experience construct is most often identified in more generic/traditional models of internationalisation. As such, the international business experience construct is not relevant for this study. *Factor 4: Internet, international marketing capabilities* indicates all items (IIMC Q25 to Q29) loaded together as a factor. The factor loadings are above ($> .7$) and the KMO is (.844).

Factor 5: International virtual networking capability factor is loaded with two main items (IVNC Q33 to Q34) – that is, international virtual network capability loaded with two items that are capturing new relationships. The items IVNC Q33 and Q34 were extracted by evaluating the factor using a Varimax rotation (Hair et al., 2010). The two main items (IVNC Q33 to Q34) indicate low factor loadings of (.135) and (.110), and therefore have been excluded from the model. The remaining four items (IVNC Q30, Q31, Q32, Q35) are loaded together as factor. The factor loadings were above ($> .7$) and the KMO is (.826). The remaining four items represent the construct, international virtual network capability.

Factor 6: International entrepreneurial opportunity recognition indicates all items (IEOR Q36 to Q40) loaded together as a factor. The factor loadings are above ($> .7$) and the KMO is (.874). *Factor 7: International market performance* indicates the factor loaded

with one main item. The item IMPQ46 was extracted by evaluating the factor using a Varimax rotation (Hair et al., 2010). IMPQ46 captures a new relationship that is not consistent with the remaining five items (IMP Q41 to Q45). The item IMPQ46 indicates a factor loading of (.440). Although Hair et al. (2010) suggest that with a sample size of at least 200 responses, factor loadings should be above ($> .4$), the item is excluded from the model due to weakness in the measure as compared with items (IMP Q41 to Q45). The remaining five items (IMP Q41 to Q45) indicate factor loadings above ($> .7$) and the KMO (.868).

Table 6.8 EFA measurement model

Expected relationships	Item question	Measures	Factor loading	Confirm or disconfirm	Comment
Factor 1	IEO International entrepreneurial orientation				
WWORLD	IEOQ6	Firm's view of the world as the market	.746	Confirmed	Items loaded well on the factor international entrepreneurial orientation. KMO is .890
ACTEXPL	IEOQ7	Culture and pursuing new opportunities	.833		
MISION	IEOQ8	Mission and international markets	.773		
RESALO	IEOQ9	Develops resources to achieve goals	.863		
EXPBUS	IEOQ10	Experience in international business	.637		
MKTIB	IEOQ11	Marketing products over the past five years	.727		
HIRISK	IEOQ12	Tendency to take on high-risk projects	.583		
SUCINT	IEOQ13	Great lengths taken to succeed internationally	.807		
VISDRI	IEOQ14	Importance of the drive of entrepreneurs	.645		
Factor 2	TRIV Technology-related international vision				
SERINC	TRIVQ15	Commitment to serving Internet customers	.821	Confirmed	Items loaded well on the factor technology-related international vision. KMO is .824
RESINT	TRIVQ16	Commits resources to Internet marketing	.773		
GROWTH	TRIVQ17	Emphasis on international growth	.746		
IEXPIM	TRIVQ18	Managerial technology experience importance	.726		
ACHIEV	TRIVQ19	Growth through the Internet is achievable	.642		
Factor 3	IBE International business experience				
YEAREX	IBEQ20	Years' experience related to export work	.710	Disconfirm	Items are excluded from the final model. KMO is .516
NUMVEN	IBEQ21	Number of previous ventures	.451		
EDUCAT	IBEQ22	Highest level of education	.160		
Factor 4	IIMC Internet, international marketing capabilities				
LEVTEC	IIMCQ25	Ability to leverage technology in the firm	.886	Confirmed	Items loaded well on the factor Internet, international marketing capabilities. KMO is .844
TECPEF	IIMCQ26	Renewal of technology importance	.835		
RENTRC	IIMCQ27	Investment in technology and sales	.791		
INVIOC	IIMCQ28	IT operational capabilities of the firm	.841		
TECINF	IIMCQ29	Technological infrastructure and e-commerce	.769		
Factor 5	IVNC International virtual networking capability			Modified and confirmed	
CUSREL	IVNCQ30	Internet to maintain international relations	.944	.943	Two-factors were extracted. Only one factor is statistically evident. Two weak items are excluded from the model (IVNCQ33 and IVNCQ34). The subsequent items load well. KMO is .826
EXIREL	IVNCQ31	Internet to strengthen international relations	.956	.946	
LONGRE	IVNCQ32	Internet to develop longer lasting relations	.907	.913	
ACQNEW	IVNCQ33	Internet to acquire new international relations	.135*		
NEWMAR	IVNCQ34	Internet to enter new international countries	.110*		
NINTPE	IVNCQ35	Internet to enhance international performance	.735	.792	
Factor 6	IEOR International entrepreneurial opportunity recognition				
ACTIVE	IEORQ36	Actively seeks new international opportunity	.860	Confirmed	Items loaded well on the factor international entrepreneurial opportunity recognition. KMO is .874
RESEXP	IEORQ37	Invests resources to exploit opportunities	.904		
PUROPP	IEORQ38	Pursues opportunity regardless of resources	.827		
PROEVL	IEORQ39	Formal and informal processes for evaluation	.869		
ADDVAL	IEORQ40	Recognising and exploiting opportunities	.719		
Factor 7	IMP International market performance (DV)			Modified and confirmed	
MRKSHA	IMPQ41	International market share	.904	.907	Two factors were extracted. Only one factor is statistically evident. One weak item (IMPQ46) is excluded from the model. The
SALGROW	IMPQ42	International growth	.896	.895	
SALGVC	IMPQ43	International sales growth vs. competitors	.721	.732	
INTPRO	IMPQ44	International profitability	.877	.872	

Expected relationships	Item question	Measures	Factor loading	Confirm or disconfirm	Comment
OPERAS	IMPQ45	Overall international market performance	.896	.889	remaining items (IMPQ41- Q45) load well. The KMO is .858.
SATIAC	IMPQ46	Satisfaction with international activities	.440*		

Note. *Item excluded due to low factor loadings.

6.4 Structural equation modelling

Structural equation modelling (SEM) is a technique that allows for separate relationships for a set of dependent variables, and provides the appropriate and most efficient estimation technique for a series of separate multiple regression equations estimated simultaneously (Hair et al., 2010). SEM is characterised by two components: (i) *the structural model*, and (ii) *the measurement model* (Anderson & Gerbing, 1988). The structural model is the path model, which relates independent to dependent variables (Hair et al., 2010). The measurement model enables the researcher to utilise several variables or indicators for a single independent or dependent variable. SEM is not made up of a single form of analysis; instead the analytical process consists of a CFA, covariant analysis and latent variable analysis (Anderson & Gerbing, 1988).

Preceding Study One, verification of constructs and modelling of the initial qualitative data in conjunction with the quantitative modelling process gives statistical generalisability to the research through a confirmatory process (Eisenhardt, 1989). SEM is used often used in complex studies that have multiple variables as seen in this project where inter-relationships can be identified across firm-level resources, capabilities, international entrepreneurial opportunity recognition, and international market performance. This multivariate approach allows researchers to confirm and construct theory through identification of the strength of relationships in a holistic manner (Bagozzi, 1994). As such, scholars agree that SEM identifies a greater degree of complexity than other more traditional methods of multivariate analysis (Hair et al., 2010). This is because SEM goes beyond simple linear relationships to identify variables which are not directly measured (Hair et al., 2010).

Several aspects of SEM set it apart from more traditional means of multivariate procedures. Firstly, SEM takes a confirmatory rather than an exploratory approach to the analysis of data (Byrne, 2010). Secondly, SEM lends itself well to the analysis of data for

inferential purposes; most other multivariate procedures by contrast are descriptive in nature (Byrne, 2010). Thirdly, more traditional multivariate procedures are incapable of either assessing or correcting for measurement error; SEM provides explicit estimates of these error variance parameters (Byrne, 2010; Hair et al., 2010). Therefore, a key benefit of utilising SEM is the ability to provide greater flexibility to the inter-relationships of the model. Fourthly, although data analyses using more traditional means of multivariate analysis, such as component, factor and discriminant analysis or multiple regression, are based on observed measurements only, analysis using SEM can incorporate both unobserved (i.e. latent), and observed variables (Byrne, 2010). Given that there are no widely and easily applied alternative methods for modelling multivariate relations, or for the estimation of indirect effects as proposed by SEM, this research will utilise the SEM process to effectively address the inter-relationships between firm-level resources and capabilities.

6.5 Conclusion

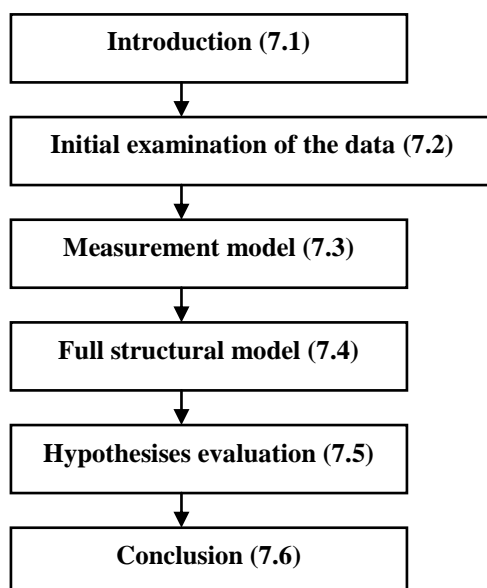
In summary, Chapter Six outlined the quantitative methodology that will be used to test the model of 'Capabilities in IE'. The quantitative research design was outlined with specific attention given to the population and study sample, the unit of analysis, selection of key informants, the process of pre-testing the questionnaire, the data collection procedures, non-response bias, common method variance, and data analysis. An EFA was conducted and discussed. Next, Chapter Seven will present and discuss the results of quantitative Study Two.

CHAPTER SEVEN: RESULTS OF QUANTITATIVE STUDY TWO

7.1 Introduction

In Chapter Seven the results of Study Two are presented and the evaluation for the measurement and structural models is provided. Study Two addresses research question two (RQ2a), ‘*What is the relative influence of firm-level resources and Internet, international marketing capabilities on international performance?*’, and research question two (RQ2b), ‘*How do international entrepreneurs leverage Internet, international marketing capabilities for international performance?*’ The aim of Study Two is to test the hypothesis developed from Study One, and to confirm the model of ‘Capabilities in IE’. The reliability and validity of the measurement model is assessed with the relevant model-fit indices for the final and competing models. The sample characteristics and data screening are also assessed. Initial analysis of the data was undertaken using IBM SPSS Statistics 19, followed by a structural equation model utilising IBM SPSS AMOS 21 software to test the inter-relationships between the constructs identified in the theoretical model. This chapter also provides evaluations and conclusions that are drawn from the data. A diagrammatic overview of Chapter Seven is provided in Figure 7.1.

Figure 7.1 Diagrammatic overview of Chapter Seven



7.2 Initial examination of the data

7.2.1 Profile of responding firms

Initial examination of the data revealed the average number of people employed in firms is between 6 and 20 persons, with 99% of the data falling within the Australian Bureau of Statistics (2012) classification of an SME, employing between 1 and 200 people. A total of 39 firms were classified as small-sized, accounting for 18.75% of the total number of respondents (employing between 1 and 5 people); 100 firms medium sized, accounting for 48.08% of the sample (employing between 6 and 20 people); and 69 firms are medium-sized in nature, accounting for 33.17% (employing between 21 and 200 people). Table 7.1 gives a profile of respondent firms, including size and location of firms.

Table 7.1 Profile of respondent firm's including size and location

*Profile	Parameters	Number of respondents	Percentage (%)
Size	1-5 persons	39	18.75%
	6- 20 persons	100	48.08%
	21- 200 persons	69	33.17%
	Missing	0	-
	TOTAL	<i>n=208</i>	100%
Location	New South Wales	71	34.13%
	Victoria	69	33.17%
	Queensland	59	28.37%
	South Australia	5	2.40%
	Western Australia	4	1.92%
	Missing	0	-
	TOTAL	<i>n=208</i>	100%

Note. n= 208 firms (total firms surveyed)

Profile of respondent firms per main state

Respondents in this study were drawn from main five states as shown in Table 7.1. Overall, the sample approximates national representativeness of the broader business population in Australia for the five main states only as established in section 6.2.8. The percentage of respondents per main state as compared with ABS (2012) statistics can be seen in Table 7.2.

Table 7.2 Percentage of respondents per main state compared with ABS statistics

Postcode	ABS Statistics* (2010-2011)	Responded	Percentage (%)
NSW	33.14%	71	34.13%
VIC	25.51%	69	33.17%
QLD	20.19%	59	28.37%
SA	6.95%	5	2.40%
WA	10.44%	4	1.92%
TOTAL	-	<i>n</i> = 208	100%

Source: *(ABS 2012).

Profile of respondent firm's international market behaviour

The data in Appendix 6 outlines the international market behaviour of firms in this study, indicating that the majority of firms (75.96%) were established between the years 1981 and 2000 and that 17.31% of firms were established between 2001 and 2006. Recent business start-ups established between 2007 and 2012 account for 6.25% of the sample. The annual turnover figures indicate that 11.05% of firms earn less than \$100,000 annually, 27.41% of firms earn between \$100,000 and \$500,000, and 48.56% of firms earn between \$500,000 and \$5 million. Only 12.98% of firms earn more than \$5 million annually.

The profile of respondent firms' international market behaviour also indicates that 49.04% of firms receive between 16% and 49% of their revenue from international markets, 35.10% of firms receive between 50% and 100% of revenue from international markets, and 11.06% of firms receive between 6% and 15% of revenue from international markets. A total of 10 firms (4.81%) indicated the proportion of revenue coming from international markets was less than 5%.

A total of 49.04% of respondent firms have customers in up to five countries, 22.60% of firms are active in 6 to 10 markets, and 28.37% of firms are active in more than 10 international markets. The data in Appendix 6 also indicates that the main first international markets firms for respondent firms included both English-speaking and non-English-speaking markets. For example, the firms first exporting to English-speaking markets accounted for 44.22% of the sample. Firms first exporting to non-English-

speaking markets accounted for 55.78 % of the sample. More specifically, the top three first export markets were the United Kingdom (19.71%), China (15.53%) and New Zealand (15.38%). The data in Appendix 6 also indicates that 47.20% of firms are currently engaged in exporting activity in English-speaking markets. The majority of firms (52.44%) are currently exporting to non-English-speaking markets.

Profile of international entrepreneurs demographics

All respondents in this study were owner/founders of an SME, responsible for key decision-making within the firm. That is, all international entrepreneurs were responsible for the international decisions made within the firm. The data in Table 7.3 indicates that the sample is slightly skewed towards males, with male respondents accounting for 65.38% of the sample and females for 34.62%. A total of 92.31% of international entrepreneurs surveyed were of Australian nationality, while only 7.69% of respondents were not Australian-born. The data indicates that the majority of the international entrepreneurs (84.13%) were aged 40 and above. International entrepreneurs aged below 40 only accounted for 15.59% of the sample. A demographic profile of the international entrepreneur’s demographics is provided in Table 7.3 below.

Table 7.3 Demographic profile of international entrepreneur’s demographics

Profile	Parameters	Number	Percentage (%)
Gender	Male	136	65.38%
	Female	72	34.62%
	Missing	0	0
	TOTAL	<i>n=208</i>	100%
Nationality of the owner	Australia	192	92.31%
	Other	16	7.69%
	Missing	0	0%
	TOTAL	<i>n=208</i>	100%
Age of the owner	20-29	6	2.61%
	30-39	27	12.98%
	40-49	47	22.59%
	50-59	85	40.86%
	60 or above	43	20.68%
	Missing	0	0
	TOTAL	<i>n=208</i>	100%

Note. n = 208 firms (total firms surveyed)

Profile of respondents' international experience

The data on the level of education of international entrepreneurs shows that 28.37% of the sample had obtained a university-level degree at the undergraduate level. A total of 15.38% of the sample attended a TAFE/technical college, while 14.90% of respondents had obtained a postgraduate degree such as a masters. The lack of a formal education is evident in 14.42% of firms, while 13.94% of international entrepreneurs had obtained a high school certificate. The data also indicates that 12.98% of respondents reached the certificate level of formal education. The majority of respondents in the questionnaire (62.50%) indicated that they had more than eight years of industry experience, while 11.06% of the sample indicated no prior industry experience. A total of 44.71% of firms indicated that they had not worked previously in an entrepreneurial venture. International entrepreneurs who had previously worked in one-to-three ventures accounted for 48.08% of the sample, those who had previously worked in four-to-six ventures accounted for 4.81% of the sample, while only 2.40% of international entrepreneurs indicated working in seven or more ventures. The profile of respondents' international experience can be seen in Table 7.4 below.

Table 7.4 Profile of respondents' international experience

Profile	Parameters	Number	Percentage (%)
Level of education	No formal education	30	14.42%
	High school	29	13.94%
	Certificate level	27	12.98%
	TAFE/college	32	15.38%
	Undergraduate	59	28.37%
	Postgraduate	31	14.90%
	Missing	0	0
	TOTAL	<i>n</i> =208	100%
Years of industry experience	No experience	23	11.06%
	1-5 years	37	17.79%
	More than 5 less than 8 years	18	8.66%
	8+ years	130	62.50%
	Missing	0	0
	TOTAL	<i>n</i> =208	100%
Number of previous entrepreneurial ventures worked	No previous ventures	93	44.71%
	1-3 ventures	100	48.08%
	4-6	10	4.81%
	7 or more ventures	5	2.40%
	Missing	0	0
	TOTAL	<i>n</i> =208	100%

Note. n = 208 firms (total firms surveyed)

Internet usage profile

The Internet usage summary in Table 7.5 indicates that all firms were using the Internet for email purposes. A total of 61.54% of firms indicated extensive use of email applications within the firm. A total of 71.63% of firms indicated extensive use of the company's website, while only 2.88% of firms that indicated no use or limited use of the Internet for website purposes. A total of 62.02% of firms indicated extensive use of online advertising and marketing, as opposed to 4.33% of firms that indicated no use or limited use. The data also indicates complex use of the Internet beyond simple use such as email, website application and advertising and marketing. For example, extensive use of the Internet for the use of online sales accounts was reported by 39.42% of firms, with 15.87% of firms indicating no use or limited use of the Internet for this purpose. After sales research through the Internet was extensively utilised in 25.96% of firms, while 6.25% of firms indicated no use or limited use. Conducting market research online was identified by 21.15% of firms, with only 2.40% of firms indicating no use or limited use. Extensive use of the Internet to identify competition was exhibited in 16.83% of firms, while 3.85% of firms indicated no use or limited use. In-house software development is most often a costly exercise, especially for the resource-constrained firm. The data shows that only 5.77% of the sample invested resources in software development for their international customer database, while 37.05% of the sample indicated that they were not investing or had invested minimally into the development of software.

Table 7.5 Internet usage summary

Profile	Scales 1-7 as noted in the questionnaire (Counts and percentage % provided)							TOTAL	Mean
	Limited use (%)	2	3	4	5	6	Extensive use		
Email	0	0	1 (0.48%)	7 (3.37%)	19 (9.13%)	53 (25.48%)	128 (61.54%)	n=208	6.44
Official company website	6 (2.88)	2 (0.96%)	1 (0.48%)	3 (1.44%)	20 (9.62%)	27 (12.98%)	149 (71.63%)	n=208	6.39
Advertising and marketing	9 (4.33%)	5 (2.40%)	3 (1.44%)	10 (4.81%)	29 (13.94%)	23 (11.06%)	129 (62.02%)	n=208	6.03
Online sales	33 (15.87)	2 (0.96%)	3 (1.44%)	23 (11.06%)	15 (7.21%)	50 (24.04%)	82 (39.42%)	n=208	5.23
After sales research	13 (6.25%)	4 (1.92%)	4 (1.92%)	19 (9.13%)	37 (17.79%)	77 (37.02%)	54 (25.96%)	n=208	5.45
Market research	5 (2.40%)	5 (2.40%)	8 (3.85%)	21 (10.10%)	53 (25.48%)	72 (34.62%)	44 (21.15%)	n=208	5.42
Identify competition	8 (3.85%)	5 (2.40%)	12 (5.77%)	47 (22.60%)	52 (25.00%)	49 (23.56%)	35 (16.83%)	n=208	5.00
In-house software development	78 (37.50%)	15 (7.21%)	8 (3.85%)	58 (27.88%)	23 (11.06%)	14 (6.73%)	12 (5.77%)	n=208	3.11

Note. n = 208 firms (total firms surveyed). The number of respondents is noted in the table with the percentage of firms in brackets.

7.2.2 Missing data

The questionnaire was administered via QUT's online Key Survey platform. Because Key Survey allows users to design surveys where respondents are unable to proceed forward without answering questions or leaving questions unanswered, missing data was not identified in the dataset. Utilising online surveys limits the possibility for missing data. As such, online surveys contain fewer missing data fields as compared with traditional paper-based surveys (Stanton, 1998). It was expected that the dataset would contain no missing data because respondents were not able to leave fields blank. Options for 'limited' and 'no' response answers were also provided. As such, respondents could not proceed to a question in the survey unless an answer (cell) in the previous question was highlighted. As such, respondents in the survey were not given the opportunity to proceed forward without answering questions, or leaving questions unanswered.

7.2.3 Normality of the data

Two descriptive measures, skewness and kurtosis, were utilised to assess the normality of the data. Skewness is used to describe the balance of the distribution, and whether the data is unbalanced and shifted to one side or is centred and symmetrical (Hair et al., 2010). Kurtosis refers to the 'peakedness' or relative 'flatness' of the distribution of the data as compared with normal distribution (Hair et al., 2010). Bentler (2005) suggests that in practice values (> 5 .) are indicative of data that is non-normally distributed. The data indicates values as seen in Appendix 7, where the skewness and kurtosis of the factor items are presented. Item IVNCQ30 indicates a kurtosis value of (6.007) and item IVNCQ31 indicates a value of (5.512). Statistical tests of univariate normality, such as the Kolmogorov-Smirnov and Shapiro-Wilk tests, reveal a significant departure from normality for all of the variables in the study tested at the p-value (.05) (two-tailed) level. Upon closer examination of the data using box and whisker plots, several outliers were revealed across the variables. The univariate outliers in this case were not removed since the mathematical and 5% trimmed level means of the variables were similar, indicating that the outliers had minimal effect on the data at the univariate level (Pallant & Manual, 2007).

7.2.4 Data outliers defined by Mahalanobis Distance (D^2) Test

Outliers represent cases whose scores are substantially different from all other in the data set (Bryne, 2010). No missing data was present; therefore outliers due to insufficient information are limited. Within a univariate outlier analysis, a common rule for detecting an outlier is that more than three standard deviations away from the mean may indicate the presence of an outlier (Kline, 2005; Hair et al., 2010). In multivariate outlier analysis, extreme scores are identified with two or more variables (Kline, 2005). Prior to interpreting the results, several assumptions were evaluated. Firstly, stem-and-leaf plots and boxplots were analysed to examine the normality of the items, which indicated that departure from normality was mild (Allen & Bennett (2012). Secondly, inspection of the scatterplots and standardised residuals against predicted values was conducted. Thirdly, a common approach to the detection of multivariate outliers is the computation of the squared Mahalanobis Distance D^2 Test for each item (Bryne, 2010).

The Mahalanobis Distance (D^2) Test measures the distance in standard deviation units between a set of scores for one item and the sample means for all variables (Bryne, 2010). Bryne (2010) suggests that an outlying item will have a D^2 value that stands distinctively apart from all other D^2 values. The Mahalanobis Distance D^2 Test indicates several outliers in the dataset. Given that the outliers exhibited similar D^2 values, deleting all offending cases was deemed unfeasible as this would result in an unreasonable reduction in sample size. Under closer examination of the data and outliers, no truly abnormal observations were apparent (Hair et al., 2010). The Mahalanobis Distance (D^2) Test can be seen in Appendix 8. It is also important to highlight that the ‘bootstrap’ procedure was employed to account for the presence of multivariate non-normality (Bryne, 2001; Schumacker & Lomax, 2004). The ‘bootstrap procedure’ will be discussed in section 7.4 of this chapter.

7.3 Measurement model

A two-step approach to SEM as advocated by Anderson and Gering (1988) was adopted in Study Two. A two-step approach to SEM requires the development and evaluation of both (i) the measurement model, and (ii) the full structural model (Anderson & Gerbing,

1998). The measurement model utilised a congeneric model for maximum reliability. Anderson and Gerbing (1988) acknowledge that re-specification of the measurement model will be required in practice; however, re-specification decisions should not be based on statistical considerations alone but rather in conjunction with theory and content considerations. As such, the re-specifications made to measurement model have been conducted with due reference and consideration to the theory (Anderson & Gerbing, 1988). The re-specification of the measurement model means that the SEM output becomes primarily exploratory with confirmatory elements (Anderson & Gerbing, 1988).

7.3.1 Confirmatory factor analysis (CFA)

The CFA, is used in a deductive mode to test hypotheses regarding unmeasured sources of variability responsible for the commonality among a set of factors (Hoyle, 2000). A CFA tests the uni-dimensionality of each factor leading to the development of a valid measurement model (Bryne, 2010). Construct validity is often assessed within the CFA, the factor loading scores of this study indicating acceptable levels at ($> .7$). That is, convergent validity was deemed to be adequate, as factor loadings were at an acceptable level. Within the CFA, a composite construct reliability test was conducted to test for internal reliability. The rule of thumb for the composite construct reliability is that a value of ($> .7$) indicates an acceptable level of internal consistency (Hair et al., 2010). Where a four-item solution was apparent an average variance extracted test was also conducted to assess convergence. A score of ($> .5$) or also indicates adequate construct convergence or internal consistency (Hair et al., 2010).

A Chi-squared comparison discriminant validity test was performed in assessing differentiation in all factors in the final model. Model fit indicators supplied an average fit to the model to assist in theoretical confirmation of the models inter-relationships. A single-model index is limited; as such several indicators were utilised to establish good model fit. Further, the Chi-square statistic (χ^2) and two additional absolute or global fit indices (RMSEA and SRMR), in conjunction with two incremental fit indices (CFI and TLI) and a parsimony index (CMIN χ^2/df), were utilised to determine model tenability (Markland, 2007). The model fit indices utilised to establish the measurement model can be seen in Table 7.6.

Table 7.6 Model fit indicators

Model fit indicator	Definition	Rule of thumb
(CMIN) χ^2/df	Chi-squared Normed	0 to 2.0
(RMSEA)	Root Mean Square Error of Approximation	< .10
(CFI)	Comparative Fit Index	> .90
(TLI)	Tucker-Lewis Index	> .90
(SRMR)	Standardised Root Mean Residual	< .10

Source: CMIN χ^2/df (Allen & Bennett, 2012); RMSEA (Bryne, 2010); CFI (Kline, 2005); TLI (Bryne, 2010; Hair et al., 2010); SRMR (Hair et al., 2010).

Chi-squared Normed (χ^2/df) (CMIN)

The Chi-square Normed (χ^2/df) (CMIN) test for goodness of fit is used to assess whether observed relationships differ from hypothesised or expected relationships (Allen & Bennett, 2012). The CMIN is the ratio between the Chi-square and the degrees of freedom (Bentler & Bonett, 1980; Kline, 2005). A significant CMIN indicates a lack of satisfactory model fit. Kline (2005) indicates that the general rule of thumb is that a value of $\chi^2/df = 0$ to 2.0 is an acceptable CMIN level. As such, the smaller the CMIN the better the model fit will be. Further, it has been suggested that the CMIN is affected by very large sample sizes (Kline, 2005), although a sample of $n=208$ is not large enough to adversely affect this test.

Root Mean Square Error of Approximation (RMSEA)

Root Mean Square Error of Approximation (RMSEA) is widely utilised in structural equation modelling and characterises how well the model fits the population, not just the sample used for estimation (Bryne, 2010). The approximation attempts to correct for both model complexity and sample size by including both in the computation (Hair et al., 2010). Lower values of RMSEA indicate better fit, with values ($< .10$) considered acceptable; however, values between (.03) and (.08) indicate better model fit and a 95% confidence interval (Bryne, 2010).

Comparative Fit Index (CFI)

The Comparative Fit Index (CFI) is an incremental fit index that avoids the underestimation of fit that is often apparent in small samples, for example, Bentler and Bonett's (1980) study where the Normed Fit Index (NFI) is utilised. The CFI was used in this research study rather than the Normed Fit Index that assumes zero error (Kline, 2011). A widely recognised model fit indicator, the CFI has a range from 0 to 1 and is similar to other incremental-fit indices. The CFI assesses relative improvement in fit of the researcher's model (Kline, 2011). An index of (.90) is preferable (Kline, 2011).

Tucker-Lewis Index (TLI)

The Tucker-Lewis Index (TLI) is also commonly referred to as the non-normed fit index (Kline, 2005). The TLI was initially developed for factor analysis but has recently been extended to include structural equation modelling (Schumacker & Lomax, 2010). The measure can be used to compare alternative models or a proposed model against a null model (Schumacker & Lomax, 2010). The model can fall outside 0 and 1 as it is not normed, although models approaching (1.0) are considered better than those with lower values (Bryne, 2010). Hair et al. (2010) advocate that the index should be larger than (.90) or (.92) if the sample size is less than 250 and the number of variables is greater than three.

Standardised Root Mean Residual (SRMR)

The Standardised Root Mean Residual (SRMR) is based on covariance residuals that evaluate the difference between observed and predicted covariance (Kline, 2005; Hair et al., 2010). The SRMR is a measure of the mean absolute value of covariance residues, whereby values less than (.10) are considered appropriate (Hair et al., 2010). Because the SRMR can be difficult to interpret when different scales are used, the Standardised Mean-squared Residual was utilised in this study. The SRMR represents the average value across the standardised residuals ranging from 0 to 1 (Bryne, 2010), while Kline (2005), advocates a value of (< .10).

Analysis of model indicators for the initial CFA findings

A CFA is a process that is utilised to test how well measured variables represent a smaller number of constructs (Hair et al., 2010). A CFA is used to provide a confirmatory test or measurement theory, which specifies how measured variables logically and systematically represent constructs in the proposed model (Hair et al., 2010). The six factors included in the CFA will now be discussed in relation to the model for indicators presented in Table 7.7. Firstly, international entrepreneurial orientation will be discussed.

Knight and Cavusgil (2004) present nine items for measurement of international entrepreneurial orientation, which draw from the work of Khandwalla (1977), Miller and Friesen (1984) and Covin and Slevin (1989). All items except (IEOQ10, IEOQ12, IEOQ14, TRIVQ18 and TRIVQ19), as seen in Table 7.7 indicate item factor loadings above the accepted ($> .70$) level (Hair et al., 2010), and are therefore confirmed for the structural model. Hair et al., (2010) suggest that standardised loading estimates should be ideally at the level of ($> .70$); as such, items included in the international entrepreneurial orientation construct include: IEOQ6 (.75), IEOQ7 (.84), IEOQ8 (.80), IEOQ9 (.87), IEOQ11 (.70), and IEOQ13 (.80). Items not included in the measurement model are: IEOQ10, IEOQ12, and IEOQ14, all of which fall below the accepted level of ($> .7$). A total of three items are included in the measurement of technology-related international vision with factor loadings above the ($> .70$) level. For instance TRIVQ15 indicates an item factor loading of (.83), TRIVQ16 (.83), TRIVQ17 (.72), TRIVQ18 (.66), and TRIVQ19 (.62). As such, all three items drawn from the work of Nummela et al., (2004) have been found to capture the construct of technology-related international vision. The items not included in the measurement model are: TRIVQ18 and TRIVQ19, which display weak factor loadings below the accepted ($> .7$) level.

The items included in the measurement of Internet, international marketing capabilities are confirmed, with factor loadings above the ($> .7$) level. For instance IIMCQ25 indicates an item factor loading of (.89), IIMCQ26 (.83), IIMCQ27 (.82), IIMCQ28 (.82), and IIMCQ29 (.76). As such, all five items drawn from the work of Zhu and Kraemer (2002), Liao et al., (2009) and the conceptual work of Reuber and Fischer (2001) have been found to capture the construct of Internet, international marketing capabilities. The

items included in the measurement of International, virtual networking capabilities are confirmed, with factor loadings above the ($> .7$) level. For instance IVNCQ30 indicates an item factor loading of (.94), IVNCQ31 (.95), IVNCQ32 (.88), and IVNCQ35 (.70). As such, all four items drawn from the work of Wu et al., (2003) and the conceptual work of Loane (2006) have been found to capture the construct of international virtual networking capabilities.

The items included in the measurement of international, entrepreneurial opportunity recognition are confirmed, with factor loadings above the ($> .7$) level. For instance IEOQ36 indicates an item factor loading of (.89), IEOQ37 (.90), IEOQ38 (.82), IEOQ39 (.85), and IEOQ40 (.73). As such, all five items drawn from the work of Lumpkin and Lichtenstein (2005) and Dimitratos et al., (2012) have been found to capture the construct of international entrepreneurial opportunity recognition. The items included in the measurement of international market performance are confirmed, with factor loadings above the ($> .7$) level. For instance IMPQ41 indicates an item factor loading of (.93), IMPQ42 (.92), IMPQ43 (.71), IMPQ44 (.85), and IMPQ46 (.86). As such, all five items drawn from the work of Moen et al., (2008), Nummela et al., (2004), and Jantunen et al., (2005) have been found to capture the construct of international market performance.

Overall, the CFA eliminated a total of five items with factor loadings below the accepted ($> .7$) level. For example, IEOQ10 indicated a weak factor loading of (.60), IEOQ12 (.59), IEOQ14 (.65), TRIVQ18 (.66), and TRIVQ19 (.62). Since the purpose of the CFA is to specify how the variables measured logically and systematically represent the constructs in the proposed model (Hair et al., 2010), the five items mentioned here have been removed. It is also important to note that the international business experience construct has not been included here in the CFA. Statistical validation signifies that the construct is not fit for factor analysis, indicating a Chronbach Alpha of (.376) and a KMO value of (.516). Reuber and Fischer (1999) acknowledge that many factors will impact a firm's performance, and that experience is not necessarily the strongest of the factors, also indicating that the literature assessing international business experience is often

fragmented and inconclusive. As such, international business experience is no longer assessed. A summary of the initial CFA findings can be seen in Table 7.7.

Table 7.7 Summary of initial CFA findings

Item	Question/ item	Initial standardised loadings	Final Standardised loadings
IEO International entrepreneurial orientation			
IEOQ6	Firm's view of the world as the market	.75	#
IEOQ7	Culture and pursuing new opportunities	.84	.73
IEOQ8	Mission and international markets	.80	.74
IEOQ9	Develops resources to achieve goals	.87	.82
IEOQ10	Experience in international business	*.60	#
IEOQ11	Marketing products over the past five years	.70	.41
IEOQ12	Tendency to take on high-risk projects	*.59	#
IEOQ13	Great lengths taken to succeed internationally	.80	#
IEOQ14	Importance of the drive of entrepreneurs	*.65	#
TRIV Technology-related international vision			
TRIVQ15	Commitment to serving Internet customers	.83	.64
TRIVQ16	Commits resources to Internet marketing	.83	.74
TRIVQ17	Emphasis on international growth	.72	.48
TRIVQ18	Managerial technology experience importance	*.66	#
TRIVQ19	Growth through the Internet is achievable	*.62	#
IIMC Internet, international marketing capabilities			
IIMCQ25	Ability to leverage technology in the firm	.89	.83
IIMCQ26	Renewal of technology importance	.83	.71
IIMCQ27	Investment in technology and sales	.82	.69
IIMCQ28	IT operational capabilities of the firm	.82	.61
IIMCQ29	Technological infrastructure and e-commerce	.76	#
IVNC International virtual networking capabilities			
IVNCQ30	Internet to maintain international relations	.94	.88
IVNCQ31	Internet to strengthen international relations	.95	.91
IVNCQ32	Internet to develop longer lasting relations	.88	.77
IVNCQ35	Internet to enhance international performance	.70	#
IEOR International entrepreneurial opportunity recognition			
IEORQ36	Actively seeks new international opportunity	.89	.78
IEORQ37	Invests resources to exploit opportunities	.90	.81
IEORQ38	Pursues opportunity regardless of resources	.82	.66
IEORQ39	Formal and informal processes for evaluation	.85	.72
IEORQ40	Recognising and exploiting opportunities	.73	.53
IMP International market performance			
IMPQ41	International market share	.93	.87
IMPQ42	International growth	.92	.85
IMPQ43	International sales growth vs. competitors	.71	.50
IMPQ44	International profitability	.85	.72
IMPQ45	Overall international market performance	.86	.74
Excluded at the CFA level			
IEOQ10 Experience in international business (.60)*			
IEOQ12 Tendency to take on high-risk projects (.59)*			
IEOQ14 Importance of the drive of entrepreneurs (.65)*			
TRIVQ18 Managerial technology experience importance (.66)*			

Item	Question/ item	Initial standardised loadings	Final Standardised loadings		
TRIVQ19 Growth through the Internet is achievable (.62)*					
Achieved fit indices					
	CMIN/ DF (D ² / DF)	RMSEA	CFI	TLI	SRMR
Initial	2.213	.077	.900	.890	.0654
Final	1.910	.066	.950	.943	.0520

Note. *Item removed at the CFA level. # = removed at the measurement model stage,

7.3.2 Measurement model evaluation

The full structural model, ‘Capabilities in IE’, was subjected to a saturated measurement model analysis. A saturated model should be tested after a CFA has validated the measurement model (Hair et al., 2010). Hox (2010) argues that a saturated model allows researchers to visualise the inter-relationships and therefore assesses the level of contribution of a given factor. A fully saturated model, which was derived from the CFA, was first examined to identify the inter-relationships between factors, and to identify where mediation of the model is apparent (Bryne, 2010). The initial model summary fit indices demonstrate that the model does not indicate close fit with the data. The summary of measurement model fit in Table 7.8 indicates fit indices of: (CMIN $\chi^2/df = 2.213$, RMSEA = .077, CFI = .900, TLI = .890, SRMR = .0654). The CMIN χ^2/df is slightly greater than (< 2), indicating acceptable, but not parsimonious, fit (Kline, 2005; Goffin, 2007). The RMSEA is ($< .10$), indicating acceptable fit (Hair et al., 2010). The CFI meets the ($> .90$) level, indicating acceptable model fit given the model complexity and sample size (Hair et al., 2010). The TLI is slightly less than the ($> .90$) level required for good model fit, but is acceptable and nearing the required limit. The SRMR indicates an acceptable fit at ($< .10$). The summary of measurement model fit can be seen in Table 7.8.

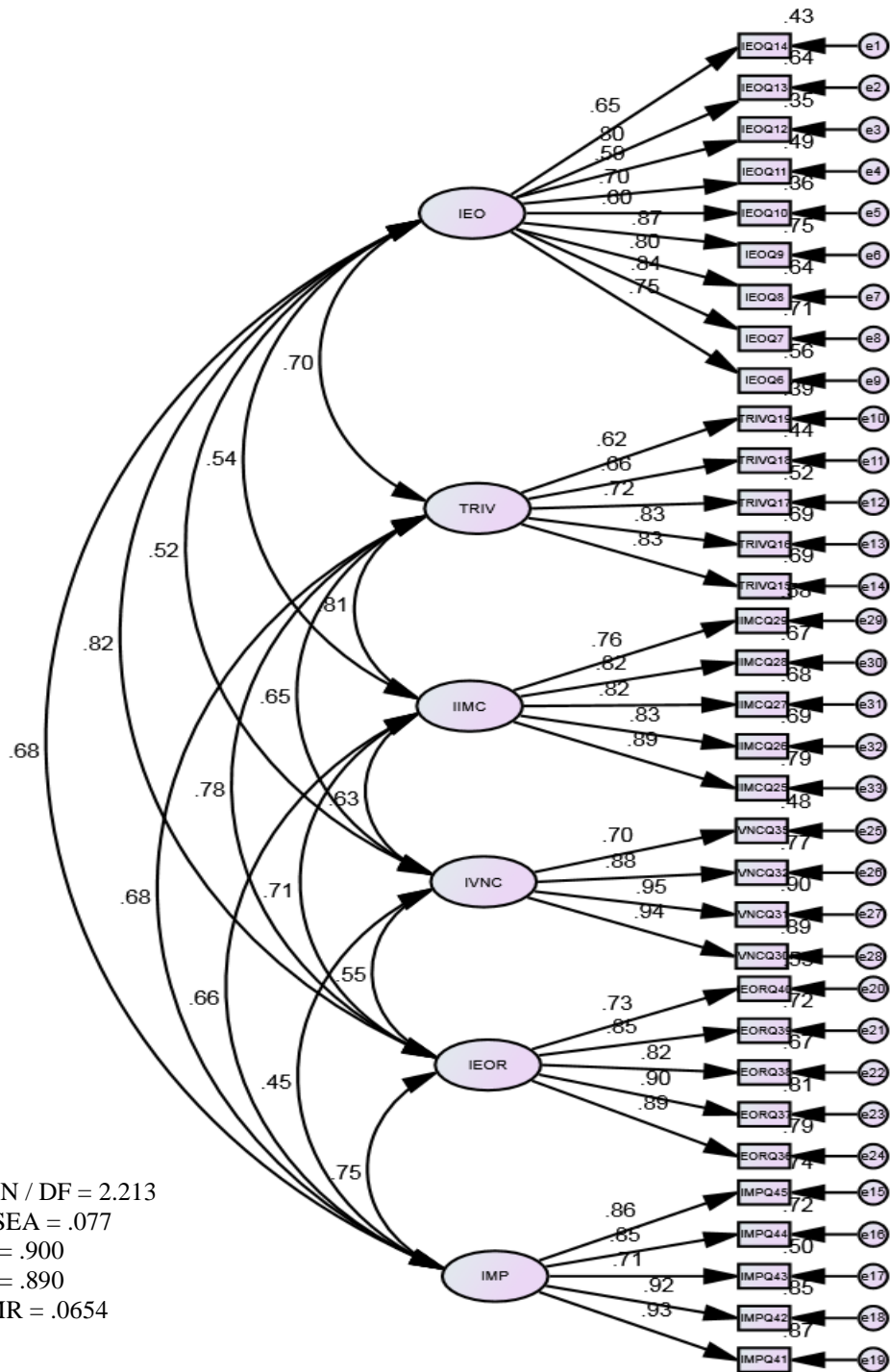
Table 7.8 Summary of measurement model fit

Model	(CMIN) χ^2/df	RMSEA	CFI	TLI	SRMR
Specified model	2.213	.077	.900	.890	.0654

Note. CMIN χ^2/df = the ratio between the Chi-squared and the degrees of freedom or Chi-square Normed, RMSEA = Root Mean Square Error of Approximation, CFI = Comparative Fit Index, TLI = Tucker-Lewis Index, SRMR = Standardised Root Mean Residual.

The measurement model results in Figure 7.2 indicate that the covariance matrix was well produced in the data in parts, but that changes to the model are warranted. As such re-specification of the measurement model will be conducted. Anderson and Gerbing (1988) acknowledge that re-specification of the measurement model is required in practice; however, the decision to re-specify a model should not be based on statistical considerations alone but rather in conjunction with theory and content considerations. As previously mentioned, the re-specifications made to the measurement model have been conducted with due reference and consideration to the theory (Anderson & Gerbing, 1988). MacCullum, Roznowski and Necowitz (1992) suggest that model should fit be assessed after each modification.

Figure 7.2 Model 1: Measurement model for factorial validity



Note. IEO = International entrepreneurial orientation, TRIV = Technology-related international vision, IIMC = Internet, international marketing capabilities, IVNC = International virtual networking capabilities, IEOR = International entrepreneurial opportunity recognition and IMP = International market performance. CMIN χ^2/df = the ratio between the Chi-squared and the degrees of freedom or Chi-square Normed, RMSEA = Root Mean Square Error of Approximation, CFI = Comparative Fit Index, TLI = Tucker-Lewis Index, SRMR = Standardised Root Mean Residual.

Re-specification of the measurement model

As the measurement model does not demonstrate close fit with the data, the model was re-specified to improve model fit on statistical and theoretical grounds. As previously discussed, model fit in this study was assessed after each single modification (MacCullum et al., 1992). Path estimates ($\Lambda < .70$) (Hair et al., 2010), standardised residuals (± 1.96) (Schumacker & Lomax, 2004), squared multiple correlations ($R^2 < .50$) (Kline, 2005), and modification indices (M.I. > 10) (Bryne, 2010), were utilised to identify areas of model strain, where re-specifications could be implemented. A total of two items from the international entrepreneurial orientation factor (IEOQ6 and IEOQ13), one item from the Internet, international marketing capabilities factor (IIMCQ29), and, one item from the international virtual networking capabilities factor (IVNCQ35) were deleted prior to estimating the structural model.

The removal of the four items from the model indicted good model fit. Only minor modifications to the measurement model were required, given that only a limited number of modification indices exceeded the ($> 4.$) or greater value (Hair et al., 2010). It is also important to note that modifications to the measurement model have not been based solely on modification indices for model improvement, but also on theoretical grounds through the CFA, which tests the measurement theory. The modifications to the measurement model are also considered to be minor given that less than 30% of the measured variables were dropped or changed with regard to the factors represented (Bryne, 2010). As such, removal of less than 30% of the items is considered to be less consequential to the dataset.

7.4 Full structural model

The full structural model summary fit indices demonstrate that the model does display close fit with the data at acceptable levels. The summary of model fit for the full structural model in Table 7.9 indicates fit indices of: (CMIN $\chi^2/df = 1.910$, RMSEA = .066, CFI = .950, TLI = .943 and, SRMR = .0520). The CMIN χ^2/df is below the accepted level (< 2), indicating acceptable and parsimonious fit (Kline, 2005; Goffin, 2007). The RMSEA is ($< .10$), indicating acceptable fit (Hair et al., 2010). The two incremental fit

indices, the CFI and TLI meet the ($> .90$) level, indicating acceptable model fit (Hair et al., 2010). The SRMR indicates an acceptable fit at ($< .10$). ‘Good model fit’, or models that indicate close fit with the data, are based on the assertion that if a majority of the fit indices indicate an acceptable model, then the model is supported by the data (Schumacker & Lomax, 2010; Hair et al., 2010). The summary of model fit can be seen in Table 7.9, followed by a discussion of the reliability and validity of the full structural model.

Table 7.9 Summary of model fit for the full structural model

Model	(CMIN) χ^2/df	RMSEA	CFI	TLI	SRMR
Specified model	2.213	.077	.900	.890	.0654
Full structural model	1.910	0.66	.950	.943	.0520

Note. CMIN χ^2/df = the ratio between the Chi-squared and the degrees of freedom or Chi-square Normed, RMSEA = Root Mean Square Error of Approximation, CFI = Comparative Fit Index, TLI = Tucker-Lewis Index, SRMR = Standardised Root Mean Residual.

Reliability and validity of the full structural model

To establish internal consistency and reliability, Chronbach’s Alpha (α) coefficients, as seen in Table 7.10, were calculated in SPSS and composite reliabilities (CR) were calculated from the CFA analysis in AMOS. All Chronbach’s Alpha (α) coefficients exceeded the optimal level of ($> .7$) (Gefen, Straub & Boudreau, 2000). The CR values for each factor also exceeded the acceptable threshold level of ($> .7$) (Hair et al., 2010). The final composite construct reliability value indicates reliability of the constructs in the study given that composite construct reliability measure is suggested to be superior to Chronbach Alpha since it utilises the item loadings obtained within the casual model (Wertz & Allinger, 1974). These coefficients demonstrate that the items reflecting the latent factors are internally consistent. The values for the Average Variance Extracted (AVE) also exceeded the threshold of ($> .5$), indicating convergent validity (Hair et al., 2010). The Average Variance Extracted (AVE) was proposed by Fornell and Larcker (1981), and is a measure of the shared or common variance in a latent variable, or the

measure of the error-free variance of a set of items. AVE is utilised in this study as a measure of convergent validity, and which is the average percentage of variation explained (Hair et al., 2010).

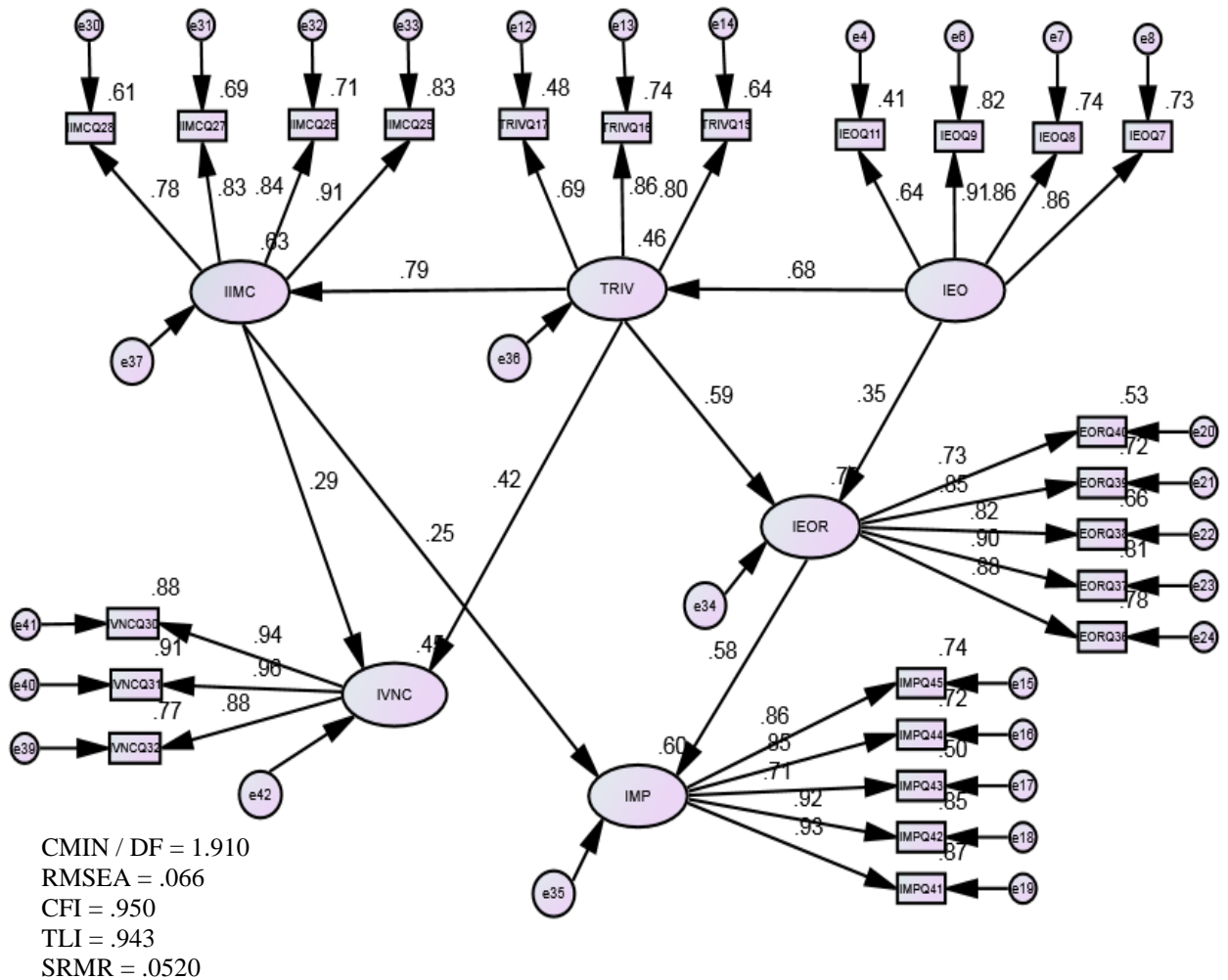
The Maximum Shared Variance (MSV) shows that all latent variables are less than the AVE values, except international entrepreneurial orientation (.672) and technology-related international vision (.651). This cross-loading between international entrepreneurial orientation and technology-related international vision was expected due to the nature of international entrepreneurial orientation which draws from components of innovation, proactiveness, risk and vision to create the variable. For example, Kropp, Lindsay and Shoham (2008) suggest that there is great overlap between individual entrepreneurial orientation and vision because vision is what shapes the firm's overall outlook and international orientation. The MSV values are also only slightly higher than the AVE values, which indicates discriminant validity. The ASV values are less than the AVE values, indicating discriminant validity (Hair et al., 2010). Further, the structural model demonstrates good and close fit with the data, providing additional evidence which supports the assumption that the latent factor variables in the structural model are adequately differentiated (Hair et al., 2010). The assessment of reliability and validity of the structural model can be seen in Table 7.10 and also in Appendix 9).

Table 7.10 Assessment of reliability and validity of the structural model

Latent variables	Chronbach's Alpha ($\hat{\alpha}$)	Composite Reliabilities (CR)	Average Variance Extracted (AVE)	Maximum Shared Variance (MSV)	Average Shared Variance (ASV)
International entrepreneurial orientation	.913	.915	.548	.672	.435
Technology-related international vision	.859	.856	.547	.651	.526
Internet, international marketing capabilities	.914	.914	.651	.651	.457
International virtual networking capabilities	.921	.926	.760	.420	.317
International entrepreneurial opportunity recognition	.920	.921	.702	.672	.530
International market performance	.934	.932	.560	.560	.424

Note. Chronbach's Alpha ($\hat{\alpha}$) was calculated in SPSS. Composite Reliabilities (CR), Average Variance Extracted (AVE), Maximum Shared Variance (MSV) and Average Shared Variance (ASV) was calculated in AMOS.

Figure 7.3 Model 2: Full structural model of ‘Capabilities in IE’



Note. IEO = International entrepreneurial orientation, TRIV = Technology-related international vision, IIMC = Internet, international marketing capabilities, IVNC = International virtual networking capabilities, IEOR = International entrepreneurial opportunity recognition and IMP = International market performance. CMIN χ^2/df = the ratio between the Chi-squared and the degrees of freedom or Chi-square Normed, RMSEA = Root Mean Square Error of Approximation, CFI = Comparative Fit Index, TLI = Tucker-Lewis Index, SRMR = Standardised Root Mean Residual.

Model comparison

In order to test whether the addition of international virtual networking capabilities significantly improves the firm’s international market performance, the likelihood ratio (LR) or Chi-square Difference Test was utilised. The LR Chi-square Difference Test was used to investigate the difference in CMIN χ^2 between alternative nested models (Schumacker & Lomax, 2010; Kline, 2011). Model 1, or the hypothesised model in Table

7.11, indicates values of: (CMIN = 466.053, a CMIN χ^2 value of = 1.910 and df =244 degrees of freedom). The degrees of freedom value is (Δ df = 2), exhibiting acceptable and parsimonious model fit with the data. The results from the data indicate that the model that freely estimates the direct and indirect path estimates, including both IVNC and TRIV, significantly fits the data better than the models where path estimates for IVNC and TRIV have been fixed to zero. For example, Model 2 indicates values of: (CMIN = 569.942, a CMIN χ^2 = 2.317, df = 246, with the χ^2 diff significant at 407, and Δ df = 2, significance at the $p < .001^{***}$ level). Model 2 does not indicate acceptable fit with the data. Model 3 indicates values of: (CMIN = 801.368, a CMIN χ^2 = 3.231, df = 248, with the χ^2 diff significant at 1321, and Δ df = 4, significance at the $p < .001^{***}$ level). Model 3, however, does not indicate acceptable fit with the data. Model 4 indicates values of: (CMIN = 883.100, a CMIN χ^2 = 3.547, df = 249, with the χ^2 diff significant at 1637, and Δ df = 5, significance at the $p < .001^{***}$ level). However, Model 4 also does not indicate acceptable fit with the data. A summary of the results of the Chi-square difference tests results can be seen in Table 7.11.

Table 7.11 Summary of the results of the Chi-square difference tests

Model	CMIN	CMIN χ^2	Degrees of freedom df	χ^2 diff	Δ df
1. Hypothesised model	466.053	1.910	244		
2. Model without IVNC Difference between Model 1 and Model 2	569.942	2.317	246	.407***	2
3. Model without TRIV Difference between Model 1 and Model 3	801.368	3.231	248	1321***	4
4. Model without IVNC and TRIV Difference between Model 1 and Model 4	883.100	3.547	249	1637***	5

*Note. CMIN = Chi-square Normed, χ^2 = CMIN Chi-squared, df = Degrees of freedom, χ^2 diff = difference in χ^2 between models, Δ df = degrees of freedom lost, p-values = significance at *** $p < .001$ level.*

Overall, the LR Chi-square difference test analysis provides evidence for the significant contribution made by international virtual networking capabilities in explaining the international market performance of the firm. That is, the hypothesised model indicates a significantly better model fit with the addition of international virtual networking

capabilities. This is because Model 1 indicates the most parsimonious and acceptable model fit with the data (for example, CMIN = 466.053, CMIN χ^2 = 1.910, df = 244, χ^2 diff = .407, Δ df = 2). Next, the ML bootstrap procedure will be discussed.

ML Bootstrap procedure

Bootstrapping is an approach to validating a multivariate model by extending a model's sample to include a larger number of sub-samples, estimating models for each sub-sample, and then determining the values for the parameter estimates from the set of models by calculating the mean of each estimated coefficient (Hair et al., 2010). Further, utilisation of the bootstrapping technique is essential in determining the stability of the model (Boomsma, 2000). The ML bootstrap procedure was based on 2000 bootstrap samples at 90% bias-corrected confidence intervals (Bryne, 2010), and was performed on the structural model so the mediation hypothesis effects of technology-related international vision and international entrepreneurial opportunity recognition could be examined. Model fit was deemed to be satisfactory, given that more complex models with larger sample sizes are subject to somewhat less stringent criteria for model fit indices (Hair et al., 2010).

Analysis of the ML bootstrap procedure showed that no significant difference existed between the analyses of the re-specified model with a bootstrap test based on 2000 bootstrap samples. For example, the fit indices for the full structural model with an ML bootstrap procedure employed indicates values of: (CMIN χ^2 /df = 1.910, RMSEA = .066, CFI = .950, TLI = .943, SRMR = .0520, p-value = significance at the $p < .001^{***}$ level). No difference exists between analyses of the full structural model with an ML bootstrap procedure employed based on 2000 bootstrap samples, further highlighting the robustness of the model. The summary of model fit for the full structural model employing an ML bootstrap procedure can be seen in Table 7.12.

Table 7.12 Summary of model fit for the full structural model employing bootstrap procedure

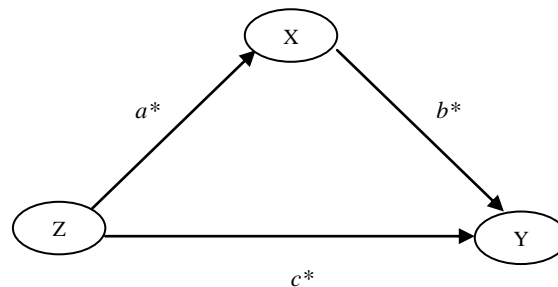
Model	(CMIN) χ^2/df	RMSEA	CFI	TLI	SRMR	p-values
Full structural model with ML bootstrap procedure	1.910	0.66	.950	.943	.0520	.000***

Note. CMIN χ^2/df = the ratio between the Chi-squared and the degrees of freedom or Chi-square Normed, RMSEA = Root Mean Square Error of Approximation, CFI = Comparative Fit Index, TLI = Tucker-Lewis Index, SRMR = Standardised Root Mean Residual, p-values = significance at *** $p < .001$ level.

Test for direct and indirect effects

A post hoc test revealed a number of mediating relationships between variables in the model. A mediating effect is established when a third variable intervenes between two other related constructs in a model (Hair et al., 2010). Direct effects are those relationships that link two constructs with a single arrow, with indirect effects representing a sequence of relationships with at least one intervening construct (Kline, 2005). Thus, an individual effect is a sequence of two or more direct effects or compound paths and is visually represented by multiple arrows, as seen in Figure 7.4.

Figure 7.4 Mediation of direct and indirect relationships



Note. The model demonstrates basic mediation, whereby Z = independent variable, Y = the dependent variable and X = the mediating variable. * Represents the mediating path relationships between variables.

Source: Adapted from Baron and Kenny (1986) and Hair et al. (2010).

In establishing the properties of a mediation model, a suggested framework by Baron and Kenny (1986) was utilised to examine the direct and indirect effects. Each proposed direct and indirect effect was tested separately according to Baron and Kenny’s (1986) approach to mediation. The overall mediation test revealed a mediated model, whereby international market performance is fully mediated by international entrepreneurial firm-

level resources and Internet capabilities. The mediated paths in the model can be seen in Table 7.13. The full analysis of the standardised indirect effects can be seen in Appendix 10, and the standardised direct effects can be seen in Appendix 11.

The results of the mediation test suggest that the relationship between ^ainternational entrepreneurial orientation and international market performance is fully mediated by international market performance ($\beta = .46$, $p\text{-value} = < .001^{***}$, $CI = .34 - .55$). The confidence interval levels (CI) are 99% bias corrected. As the Beta weight (β) is between the upper bounds and the lower bounds with a $< .001^{***}$ significance level, mediation is observed. Mediated effects between ^binternational entrepreneurial orientation to Internet, international marketing capabilities through technology-related international vision is observed ($\beta = .43$, $p\text{-value} = < .001^{***}$, $CI = .30 - .55$). Other mediated effects can be seen in the following: ^cinternational entrepreneurial orientation to international virtual network capabilities through technology-related international vision ($\beta = .35$, $p\text{-value} = < .001^{***}$, $CI = .22 - .47$); ^dinternational entrepreneurial orientation to international entrepreneurial opportunity recognition through technology-related international vision ($\beta = .28$, $p\text{-value} = < .001^{***}$, $CI = .17 - .42$); ^etechnology-related international vision to international market performance through Internet, international marketing capabilities ($\beta = .43$, $p\text{-value} = < .002^{**}$, $CI = .29 - .54$); ^ftechnology-related international vision to international virtual networking capabilities through Internet, international marketing capabilities ($\beta = .23$, $p\text{-value} = < .010^*$, $CI = .051 - .413$). The summary of the indirect effects can be seen in Table 7.13.

Table 7.13 Summary of the indirect effects

Relationship	β	p-value	CI	
			Upper Bounds	Lower Bounds
aIEO - IEOR - IMP	$\beta.46$	$.001^{***}$	.55	.34
bIEO - TRIV - IIMC	$\beta.43$	$.001^{***}$	.55	.30
cIEO - TRIV - IVNC	$\beta.35$	$.001^{***}$	.47	.22
dIEO - TRIV - IEOR	$\beta.28$	$.001^{***}$	.42	.17
eTRIV - IIMC - IMP	$\beta.43$	$.002^{**}$	.54	.29
fTRIV - IIMC - IVNC	$\beta.23$	$.010^*$	.413	.051

Note. IEO = International entrepreneurial orientation, IEOR = International entrepreneurial opportunity recognition, IMP = International market performance, TRIV = Technology-related international vision, IIMC = Internet, international marketing capabilities, IVNC = International virtual networking capabilities. β = Beta weight, CI = confidence level, p-values = significance at $p < .05^*$, $p < .01^{**}$, $p < .001^{***}$ level.

Common method variance and the Correlated Marker Technique

Cross-sectional research of behavioural relationships is vulnerable to inflation of correlations by common method variance (Lindell & Whitney, 2001). Scholars who study firm behaviours, such as those characterised by the international entrepreneur, have a vested interest in problems associated with the use of self-reporting to describe variables such as attitudes, emotions and perceptions of the work environment (Williams, Hartman & Cavazotte, 2010). Lindell and Whitney (2001) introduced a partial correlation technique, which is referred to as the Correlational Marker Technique. The Correlational Marker Technique is utilised for controlling method variance using a marker variable that is theoretically unrelated to substantive variables in a study (Williams et al., 2010). Podsakoff and Organ (1986) point out that common method variance can be due in part to item similarity, mood states, illusory correlations and social desirability. Social desirability is often a cause for concern for researchers investigating international entrepreneurial behaviour, as most often the entrepreneur is critical for triggering desirability to portray outcomes more favourable than reality (Chen, Greene & Crick, 1998) or optimised perceptions of reality (Shepherd & Krueger, 2002).

The 'product characteristics' factor was utilised as the product marker variable in this study. A key requirement of the Correlated Marker Technique, the marker variable (product characteristics), is noted as being theoretically unrelated to the substantive variables in the model (Williams et al., 2010). This is opposed to other organisational studies that utilise marker variables similar to the context of the research and therefore do not completely satisfy the requirement that the marker variable must be theoretically unrelated to the other substantive variables in the research (Irving & Coleman, 2003; Griffith & Lusch, 2007; Luthans, Zhu, & Avolio, 2006) – for example, a marker variable related to 'leadership' in organisational research (Zhu, Chew, & Spangler, 2005). A seven-point Likert scale was applied to six items in the product characteristic marker variable. The product characteristics marker variable item specification can be seen in Table 7.14.

Table 7.14 Product characteristics marker variable item specification

Questionnaire number	Construct	Scale	Description and measure
Part G. Q47 Product marker variable	Product characteristics marker variable	Interval	<p>The following questions concern your firm's product characteristics.</p> <p>Please indicate by selecting the appropriate box. In my firm the company's product/s...</p> <p>Scale anchor: (1) strongly agree - (7) strongly disagree</p> <p>(a) is/are classified as sophisticated? (b) is/are complex in nature (c) need(s) specialised know how to market (d) take(s) a long time to learn about (e) has/have a large proportion that is technological in nature (f) need(s) a high level of specialised service</p>

A latent variable approach to marker variables in overcoming common method bias

Given the increasing use of SEM with latent variables in firm research, Williams et al. (2010) suggest the use of SEM to investigate marker variables. In this study, the Correlated Marker Technique was employed in SEM, following the suggestion of Williams et al. (2003) to provide product characteristics with the label of the marker technique. Williams et al. (2010) suggest that an SEM latent variable approach puts the area of marker variable method variance investigation in line with other method variance research by approaching the technique from a measurement model perspective via factor loadings. This approach also provides a statistical test of bias due to overcoming the limitation that there is no test to compare the zero-order and partial correlations with the Correlational Marker Technique (Williams et al., 2003; Williams et al., 2010). The marker variable Delta, which is the calculated difference between the standardised regression weights, indicates no extreme values and therefore a limited number of paths in the structural model are affected by common method bias. The comparison of standardised regression weights for the Correlated Marker Technique can be seen in Appendix 12.

Post Hoc Harman's Single-Factor Test

One technique widely utilised by researchers to address the issue of common method bias is the Harman's Single-Factor Test, proposed by Podsakoff et al. (2003). The test reveals that 52.39% of the variance in the data can be attributed to a single factor. Although some researchers may report this value as being relatively 'high', Chang et al. (2010) highlight that there is no useful guideline as to what would be the acceptable percentage of explained variance in a model and that simply reporting seemingly reassuring outcomes from Harman's single-factor test is insufficient to prove that common method variance is not an issue. As such, use of the Correlated Marker Technique is a more valid measure of variance (Chang et al., 2010; Ariño, 2002).

7.5 Hypotheses evaluation

The results of this study provide support for the majority of hypotheses (see Table 7.16). The hypothesis that *international entrepreneurial orientation is positively related to international market performance* (H1) is partially supported. This finding indicates two results. Firstly, that international entrepreneurial orientation has a significant, positive effect on international market performance, and secondly, that international entrepreneurial orientation exhibits a significant direct and indirect effect, fully mediated by international entrepreneurial opportunity recognition, on international market performance. As such, the hypothesis that *international entrepreneurial orientation is positively related to international entrepreneurial opportunity recognition* (H2) is supported.

The hypothesis that *technology-related international vision is positively related to international market performance* (H3) is partially supported. This is because technology-related international vision has a significant positive effect on international market performance, but is also fully mediated through both international entrepreneurial opportunity recognition and Internet, international marketing capabilities. This finding, therefore, provides support for the hypothesis that *technology-related international vision is positively related to international entrepreneurial opportunity recognition* (H4),

attributed to the significant direct effect on international entrepreneurial opportunity recognition.

The hypothesis that *technology-related international vision is positively related to Internet, international marketing capabilities* (H5) is supported, indicating a significant positive effect on Internet, international marketing capabilities. The hypothesis that *Internet, international marketing capabilities is positively related to international market performance* (H8) is supported. That is, Internet international marketing capabilities have a significant direct effect on international market performance. The hypothesis that *Internet, international marketing capabilities is positively related to international entrepreneurial opportunity recognition* (H9) is not supported. The results from the data indicate that Internet, international marketing capabilities did not exhibit a significant and direct relationship with international entrepreneurial opportunity recognition.

The hypothesis that *Internet, international marketing capabilities is positively related to international virtual networking capabilities* (H10) is supported, as a significant direct effect was exhibited. The hypothesis that *international virtual networking capabilities is positively related to international market performance* (H11) is not supported. The results from the data indicate that international virtual networking capabilities did not exhibit a significant and direct relationship with international market performance. The hypothesis that *international virtual networking capabilities is positively related to international entrepreneurial opportunity recognition* (H12) is not supported. The results from the data indicate that international virtual networking capabilities did not exhibit a significant and direct relationship with international entrepreneurial opportunity recognition.

The hypothesis that *international entrepreneurial opportunity recognition is positively related to international market performance* (H13) is supported. The results from the data suggest that the international opportunity recognition and subsequent exploitation of international market opportunities of firms occurs after the identification of firm-level resources and Internet capabilities. The results exhibit a significant direct effect between international entrepreneurial opportunity recognition and international market performance outcomes.

The results of the study also signify three non-hypothesised relationships. Firstly, a significant direct effect between international entrepreneurial orientation and technology-related international vision was observed. Secondly, international entrepreneurial orientation is positively related to Internet, international marketing capabilities, but is mediated through technology-related international vision. And thirdly, technology-related international vision is positively related to international virtual networking capabilities. These three non-hypothesised relationships were accepted and supported by the full structural equation model. The hypothesised and non-hypothesised relationships from the structural equation model can be seen in Table 7.15.

Table 7.15 Evaluated hypothesised relationship table

Code	Hypotheses	Regression weights [^]	Result
IEO - IMP	H1: 'International entrepreneurial orientation is positively related to international market performance'	-	Supported*
IEO - IEO	H2: 'International entrepreneurial orientation is positively related to international entrepreneurial opportunity recognition'	.35	Supported
TRIV - IMP	H3: 'Technology-related international vision is positively related to international market performance'	-	Supported*
TRIV - IEO	H4: 'Technology-related international vision is positively related to international entrepreneurial opportunity recognition'	.59	Supported
TRIV - IIMC	H5: 'Technology-related international vision is positively related to Internet, international marketing capabilities'	.79	Supported
IIMC - IMP	H8: 'Internet, international marketing capabilities are positively related to international market performance'	.25	Supported
IIMC - IEO	H9: 'Internet, international marketing capabilities are positively related to international entrepreneurial opportunity recognition'	-	Unsupported
IIMC - IVNC	H10: 'Internet, international marketing capabilities are positively related to international virtual networking capabilities'	.29	Supported
IVNC - IMP	H11: 'International virtual network capabilities are positively related to international market performance'	-	Unsupported
IVNC - IEO	H12: 'International virtual network capabilities are positively related to international entrepreneurial opportunity recognition'	-	Unsupported
IEOR - IMP	H13: 'International entrepreneurial opportunity recognition is positively related to international market performance'	.58	Supported
Non- hypothesised relationships			
Code	Hypotheses	Regression weights [^]	Result
IEO - TRIV	International entrepreneurial orientation is positively related to technology-related international vision	.68	Supported
IEO - IIMC	International entrepreneurial orientation is positively related to Internet, international marketing capabilities but is mediated through technology-related international vision	-	Supported
TRIV - IVNC	Technology-related international vision is positively related to international virtual networking capabilities	.42	Supported

*Note. H6 and H7 are no longer applicable as international business experience (F3) was not a part of the full structural model. *Partially supported, however, the construct is mediated through another variable. ^ Regression weights in the table are standardised.*

Theoretical inter-relationships in the final model of ‘Capabilities in IE’

With regard to the final model of ‘Capabilities in IE’, positive effects are exhibited across a number of factors. The standardised regression weights are presented in Table 7.16. The standardised coefficients indicate loadings above ($> .7$) except for item TRIVQ17 which indicates a loading of .691. This estimate is approaching the ($> .7$) level of acceptance, and therefore is not a cause for concern. The relatively high standardised regression weights are indicative of the significant inter-relationships represented in the structural model. The overall correlations and covariances for the final model can be seen in Appendices 13–18.

Table 7.16 Standardised regression weights

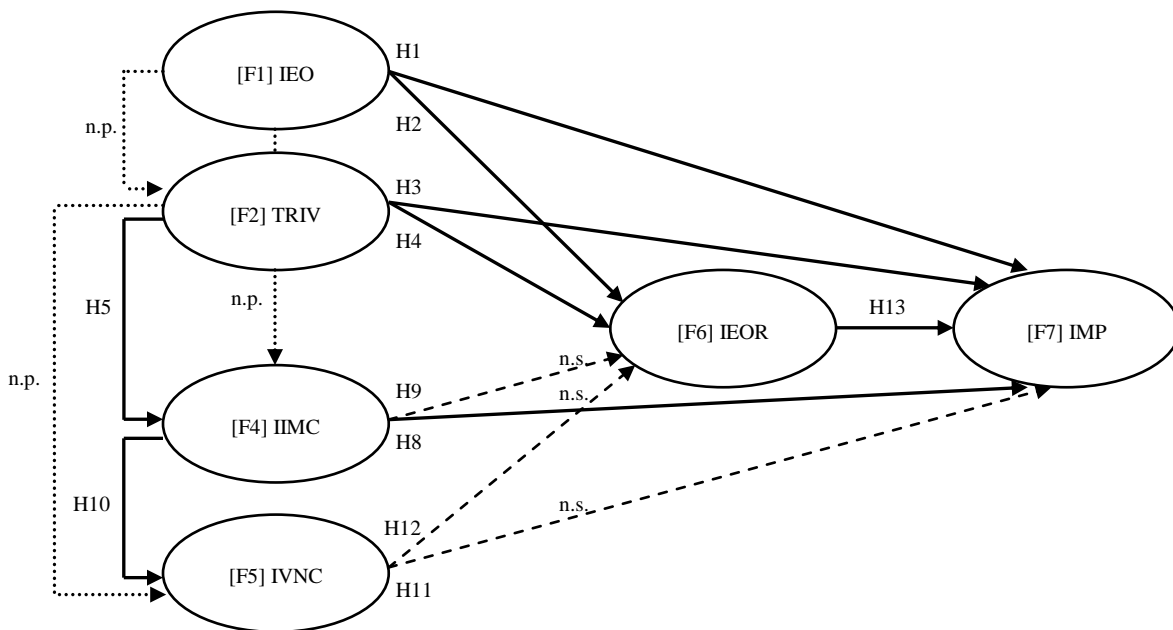
		Estimate
TRIVQ17	TRIV	.691
TRIVQ16	TRIV	.862
TRIVQ15	TRIV	.801
IMPQ45	IMP	.863
IMPQ44	IMP	.847
IMPQ43	IMP	.709
IMPQ42	IMP	.919
IMPQ41	IMP	.930
IEORQ40	IEOR	.726
IEORQ39	IEOR	.846
IEORQ38	IEOR	.815
IEORQ37	IEOR	.902
IEORQ36	IEOR	.883
IVNCQ32	IVNC	.880
IVNCQ31	IVNC	.956
IVNCQ30	IVNC	.937
IIMCQ28	IIMC	.779
IIMCQ27	IIMC	.829
IIMCQ26	IIMC	.843
IIMCQ25	IIMC	.913
IEOQ11	IEO	.640
IEOQ9	IEO	.908

		Estimate
IEOQ7	IEO	.855
IEOQ8	IEO	.857

Note. TRIV = Technology-related international vision, IMP = International market performance, IEO = International entrepreneurial orientation, IEOQ7 = International entrepreneurial opportunity recognition, IVNC = International virtual networking capabilities, IIMC = Internet, international marketing capabilities, IEO = International entrepreneurial orientation. Estimate = Standardised regression weight.

The majority of the structural paths in the model ‘Capabilities in IE’ exhibit significant effects. The model also indicates a number of significant, non-significant and new pathways. A visual representation of the hypothesised and non-hypothesised relationships can be seen next in Figure 7.5.

Figure 7.5 Final model of ‘Capabilities in IE’: Significant, non-significant and new pathways

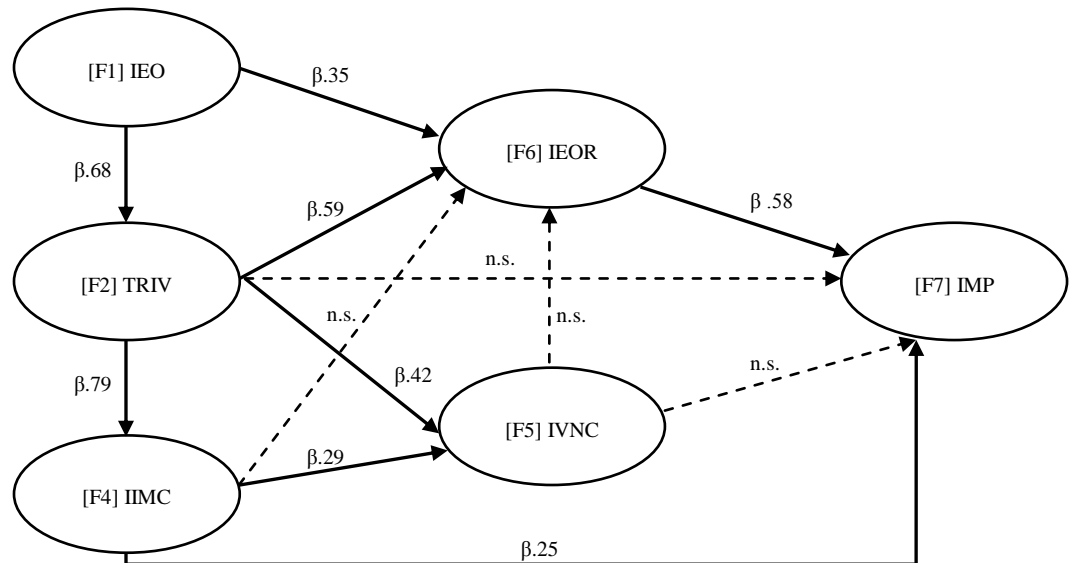


Note. IEO = International entrepreneurial orientation. TRIV = Technology-related international vision. IIMC = Internet, international marketing capabilities. INCV = International virtual networking capabilities. IEOR = International entrepreneurial opportunity recognition. IMP = International market performance. [F] Factor variable. Dark structural line indicates a significant and direct path. Dashed arrow indicates non-significant (n.s.) relationship. Dotted line indicates a new path (n.p.) relationship.

The beta (β) weights in the final model of the theoretical inter-relationships between firm-level resources and Internet capabilities show a significant and direct relationship

between international entrepreneurial orientation and technology-related international vision, $\beta = .68$, and a significant and direct relationship with international entrepreneurial opportunity recognition, $\beta = .35$. A significant and direct relationship is also exhibited by international entrepreneurial opportunity recognition on international market performance, $\beta = .58$. Technology-related international vision also exhibits a significant relationship with international entrepreneurial opportunity recognition, $\beta = .59$, and international virtual networking capabilities, $\beta = .42$. A significant and direct relationship is exhibited between technology-related international vision and Internet, international marketing capabilities with a final $\beta = .79$. Internet, international marketing capabilities also exhibits a significant relationship with international market performance, with a final $\beta = .25$, and international virtual networking capabilities, $\beta = .29$. The final model of ‘Capabilities in IE’ can be seen in Figure 7.6.

Figure 7.6 Final model of ‘Capabilities in IE’



Note. IEO = International entrepreneurial orientation. TRIV = Technology-related international vision. IIMC = Internet, international marketing capabilities. INCV = International virtual networking capabilities. IEOR = International entrepreneurial opportunity recognition. IMP = International market performance. [F] Factor variable. Dashed arrow indicates non-significant (n.s.) relationship. Dark structural line indicates a significant and direct path. β = Beta values or factor loadings.

7.6 Conclusion

In conclusion, this chapter has presented the results of the structural equation model in Study Two. In this chapter, questionnaire data was collected from $n=208$ international entrepreneurial SMEs engaged in exporting activity. The data was collected via an online Key Survey platform and analysed in IBM SPSS AMOS 21, in accordance with the two-step approach as proposed by Anderson and Gerbing (1988). The two-step approach to structural equation modelling included: (i) the measurement model, and (ii) the structural model. The structural equation modelling process also included an EFA and CFA. The results of the structural equation model indicated that the majority of the hypothesised relationships were supported. The results from the data indicate that the model of 'Capabilities in IE' is more complex than originally proposed. As such, post hoc testing revealed the existence of three additional significant non-hypothesised relationships in the full structural model of 'Capabilities in IE', which were confirmed and accepted. Chapter Eight will provide a discussion of the overall findings of Study One and Study Two, as a discussion of the theoretical and practical contributions of this thesis. The limitations and directions for future research will also be discussed.

CHAPTER EIGHT: DISCUSSION AND CONCLUSION

8.1 Introduction

The aim of this thesis was to empirically investigate the influence of international entrepreneurial resources and capabilities in achieving international performance outcomes. Although research pertaining to the resources and capabilities of firms in the entrepreneurship and international business is well established, and the assumed performance outcomes of firm-level capabilities has been identified (McKelvie & Davidsson, 2009), the emergent literature on Internet capabilities for international entrepreneurial remains underdeveloped. With the exception of a small number of studies (see, Aspelund & Moen, 2004; Loane et al., 2004; Morgan-Thomas & Bridgewater, 2004; Loane, 2006; Mostafa et al., 2006; Reuber & Fischer, 2011), researchers have paid limited attention to the role of the Internet in firms' performance outcomes. To address the three gaps in the literature, three research questions were developed to investigate how international entrepreneurs utilise resources and Internet capabilities to achieve international market performance. Research question one (RQ1) is as follows:

RQ1: What are the firm-level resources and Internet, international marketing capabilities of firms, and how do they influence international performance?

The purpose of research question one (RQ1) was, firstly, to identify the specific firm-level resources and Internet capabilities of international entrepreneurial firms, and secondly, to then understand how these firm-level resources and Internet capabilities are influencing international market performance. The aim of research question two (RQ2a) was firstly to examine the relative importance of firm-level resources and Internet capabilities in influencing the firm's international market performance. Research question two (RQ2a) is as follows:

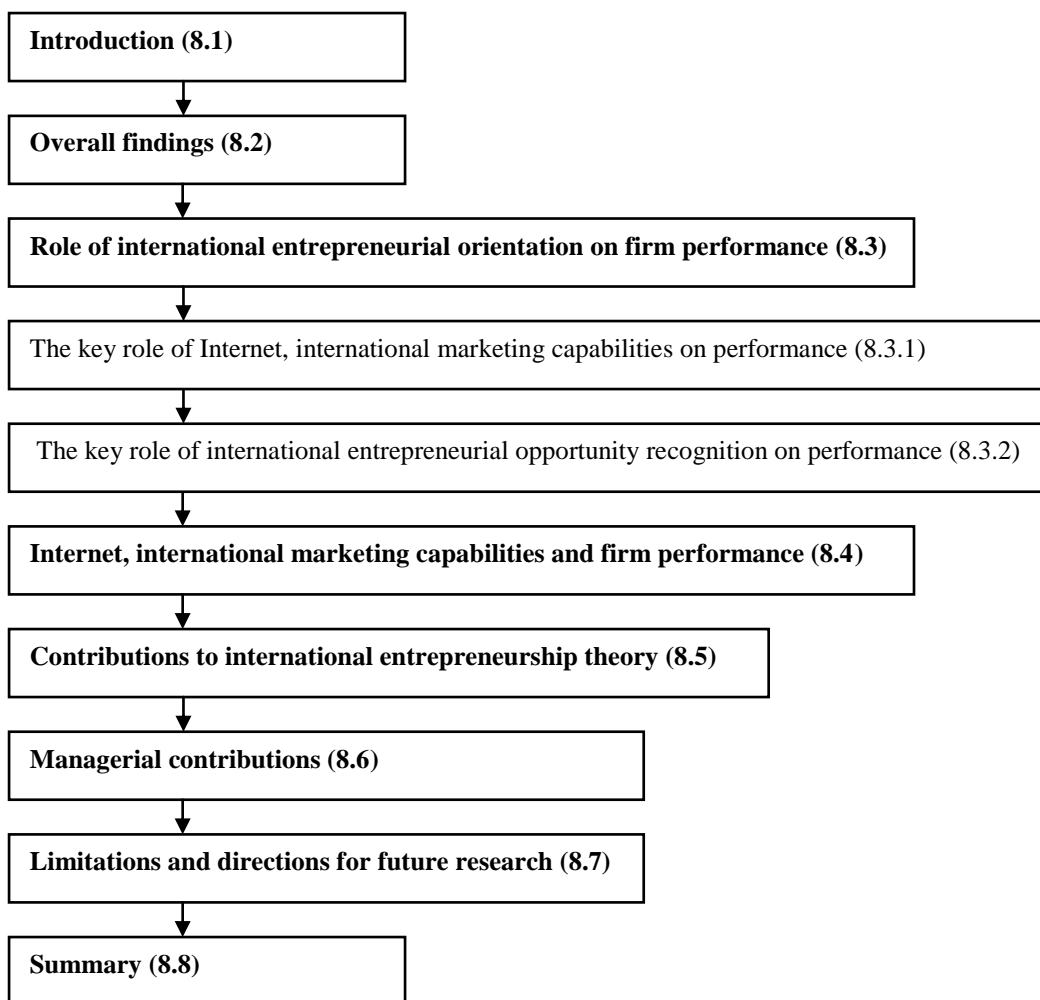
RQ2a: What is the relative influence of firm-level resources and Internet, international marketing capabilities on international performance?

Secondly, the aim of research question two (RQ2b) was to understand the role of the international entrepreneur in influencing the international market performance of the firm. Research question two (RQ2b) is as follows:

RQ2b: How do international entrepreneurs leverage Internet, international marketing capabilities for international performance?

Chapter Eight is segmented into eight main sections, as seen in Figure 8.1. Firstly, introductory comments are provided. Secondly, the overall key findings of the research are presented followed by the contributions to theory and practice. Limitations and directions for future research are also discussed followed by concluding comments.

Figure 8.1 Diagrammatic overview of Chapter Eight



8.2 Overall findings

The overall findings of this thesis emphasise the inter-connecting relationship between firm-level resources and Internet capabilities for the exploitation of international market performance. International entrepreneurs can reduce uncertainty when entering international markets by building firm-level resources, and Internet-related capabilities to exploit opportunities. The decision to exploit an opportunity represents a commitment to international market entry (Choi & Shepherd, 2004). Thus, this thesis identifies a specific ‘bundle’ of firm-level resources required for firms in pursuing international market performance outcomes; (i) international entrepreneurial orientation capabilities; (ii) international entrepreneurial opportunity recognition and, (iii) Internet, international marketing capabilities.

The findings from Study One indicate that international entrepreneurial orientation is a critical firm-level resource for firms in identifying new international market opportunities and for leveraging international market performance. The findings from Study Two also suggest that international entrepreneurial orientation is a precursor to identification of other key firm-level resources such as technology-related international vision, and the development of capabilities such as international entrepreneurial opportunity recognition. International entrepreneurial orientation is also a precursor to the identification of capabilities such as international entrepreneurial opportunity recognition, and Internet, international marketing capabilities. These key findings support Wiklund and Shepherd (2005) who suggest that firm-level resources are relevant for enacting entrepreneurial orientation, and that the strength of a firm’s performance relies on the internal resources of the firm.

The findings from Study One also support Knight (2001) who suggested that firms with an international entrepreneurial orientation will perform better than those without one. As such, the findings of this thesis suggest that international entrepreneurial orientation positively influences the firm’s performance. However, relying on this main critical resource provides an incomplete understanding of why some firms perform better than others or achieve superior international market performance. As such, the identification of

other key Internet capabilities contributing to the firm's international market performance is imperative.

The findings from Study One indicate that a second critical element in the creation of a firm's resource and capability bundle is international entrepreneurial opportunity recognition. The findings show that international entrepreneurs utilise international entrepreneurial opportunity recognition to explore new international markets. The findings suggest that international entrepreneurial opportunity recognition occurs after the identification of firm-level resources and is the capability through which firms identify international opportunities.

The findings from Study One suggest that Internet capabilities are an important and complex multi-faceted concept, one that occupies an important role in this thesis. Internet, international marketing capabilities, for instance, allow the firm to create and deliver superior customer value through efficient and fast-responding marketing processes (Day, 1994). As such, the Internet can be employed not only as a tool to improve international market performance, but also as a core capability underpinning the firm's overall international strategy. The findings also indicate that Internet, international marketing capabilities directly lead to international market performance.

The 'bundle' of firm-level resources and Internet capabilities, as presented in Figure 8.1, represent important intangible assets that are critical elements for firms in achieving international market performance. Further, the findings from Study Two suggest that collectively these firm-level resources and Internet capabilities contribute to the creation of a unique resource bundle. Moreover, this research provides scholars with an understanding of the total number of firm-level resources and Internet capabilities required for international market performance, beyond a singular viewpoint. The overall findings of this thesis indicate that resources (*international entrepreneurial orientation*) coincide with capabilities (*international entrepreneurial opportunity recognition, Internet, international marketing capabilities*), in a model which predicts how opportunity recognition is operationalised and how international market performance is achieved.

Table 8.1 Summary of key findings from Study One and Study Two

	Construct	Summary of findings
(i) *Resource	International entrepreneurial orientation	<ul style="list-style-type: none"> - International entrepreneurial orientation occurs at the cognitive level and is what initiates firm internationalisation. - Firms emphasising international innovative, proactiveness and risk-taking propensities will generally have higher levels of Internet, international marketing capability development. - International entrepreneurial orientation is a critical resource for firms to leverage on for improved international market performance.
(ii) *Capabilities	International entrepreneurial opportunity recognition	<ul style="list-style-type: none"> - International entrepreneurs are taking advantage of firm-level resources and Internet capabilities through opportunity exploration and recognition. - International entrepreneurs utilise ‘international entrepreneurial opportunity recognition’ as a tool for exploration in international markets to exploit new international opportunities. - International opportunity recognition is a critical factor that directly contributes to a firm’s international market performance. - International entrepreneurial opportunity recognition occurs after cognition and is the capability through which firms are identifying international opportunity.
(iii) Internet capabilities	Internet, international marketing capabilities	<ul style="list-style-type: none"> - The Internet can be employed not only as a tool to improve international market performance, but also as a core capability underpinning the firm’s overall international strategy. - Two critical elements are required for the development of Internet, international marketing capabilities to leverage international business performance: (i) international entrepreneurial opportunity recognition, and (ii) international entrepreneurial orientation.

*Note. * The ‘bundle’ of international entrepreneurial orientation, international entrepreneurial opportunity recognition, and Internet, international marketing capabilities, is critical to the firm’s exploration of international activity and subsequent exploitation of new international market opportunities.*

8.3 The positive influence of firm-level resources and capabilities on performance

8.3.1 The key role of Internet, international marketing capabilities on performance

The first research question (RQ1) sought to address ‘*What are the firm-level resources and Internet, international marketing capabilities of firms, and how do they influence international performance?*’ Previous research suggests that the overall success of international entrepreneurial SMEs in international markets relies profoundly on the capacity of the firm to change and adapt to new developments that characterise an online environment, such as the existence of Internet, international marketing capabilities

(Mostafa et al., 2006; Reuber & Fischer, 2011). The findings of this thesis support the key role played by Internet, international marketing capabilities in positively influencing the firm's international market performance. Defined as a firm's capability for utilising Internet technology in marketing-related functional areas to respond to market changes, while generating value for customers (Morgan, 2012), Internet, international marketing capabilities are classified as an important for the firms international outcomes. This is because Internet capabilities can assist the firm in leveraging the international business processes of the firm by improving the transference of knowledge and the efficiency of international market transactions (Glavas & Mathews, 2014a). The findings from Study Two suggest that a positive relationship exists between Internet, international marketing capabilities and the firm's international market performance. This is in contrast to research that suggests that the extent to which Internet capabilities contribute to the international market performance of the firm through marketing-related and technology-based capabilities remains unclear (Celuch & Murphy, 2010). Further, a summary of key findings in relation to Internet, international marketing capabilities can be seen in Table 8.2.

Table 8.2 Summary of findings: Internet, international marketing capabilities

Overall findings	
Construct	Summary of key findings from Study One
Internet, international marketing capabilities	<ul style="list-style-type: none"> - The findings from Study One indicate that the Internet can be employed not only as a tool to improve international performance, but also as a core capability underpinning the firm's overall international strategy. - The findings suggest that Internet, international marketing capabilities facilitate international market performance, as an international entrepreneurial orientation geared towards the implementation of Internet, international marketing capabilities supports opportunity recognition in new international markets. - The findings from Study Two indicate that Internet, international marketing capabilities has a direct relationship with international market performance.

Nevertheless, the findings from Study One diverge from previous research in part, which states that Internet capabilities are critical to the successful pursuit of international marketing opportunities. In particular, the findings from Study One suggest that the relationship between Internet, international marketing capabilities and international entrepreneurial opportunity recognition does not exist. That is, although previously thought to impact international entrepreneur's capability to identify and exploit

international opportunity through recognition, Internet, international marketing capabilities do not directly affect the performance of the firm. One possible rationalisation for this finding is the Internet’s ability to serve as a platform which allows firms to take advantage of international market opportunity. In itself, the Internet could be seen a mechanism for opportunity recognition, and therefore a significant relationship exists only with international market performance.

Although previous studies have argued that virtual networks are positively related to the international market performance of the firm (see, Aspeland & Moen, 2004), the findings of Study One suggest that international virtual networking capabilities are not directly related to the firm’s international market performance. This finding suggests that international virtual networking capabilities are not necessarily a precursor to the successful integration of Internet capabilities for the international market performance of the firm. The summary of findings in relation to international virtual networking capabilities can be seen in Table 8.3.

Table 8.3 Summary of findings: International virtual networking capabilities

Overall findings	
Construct	Summary of key findings from Study One
International virtual networking capabilities	<ul style="list-style-type: none"> - The findings indicate that developing an international virtual network capability is comprised of: <ul style="list-style-type: none"> (a) Developing an international network with suppliers and distributors (b) Developing international networks with industry-specific firms (c) Developing international networks with customers and industry authorities. - The findings show that a greater number firms were developing new international virtual networking capabilities rather than maintaining and leveraging off established networks. - New networking capabilities were not only confined to the firm’s export market, but were also seen in subsequent internationalisation activities.

8.3.2 The key role of international entrepreneurial opportunity recognition on performance

The second research question (RQ2a) sought to address, ‘*What is the relative influence of firm-level resources and Internet, international marketing capabilities on international performance?*’ The findings from Study Two suggest that international entrepreneurial opportunity recognition is characterised as capability. This is because opportunity

recognition is an iterative process, wherein the entrepreneur revises their international strategy over time. This finding is supported by Zahra et al. (2005) who suggest that the revisions in the international entrepreneur's strategy is largely based on the entrepreneur's intuition, formal and informal feedback from the market, and from the results of trial and error. Previous research studies in IE examining firms in an Internet context have underscored the importance of a firm's international entrepreneurial opportunity recognition (Sinkovics & Bell, 2006; Mostafa et al., 2006; Mathews & Zander, 2007). The findings from Study One, however, indicate the importance of international entrepreneurial opportunity recognition in mediating the relationship between firm-level resources such as international entrepreneurial orientation and technology-related international vision. Importantly, the research findings indicate a significant mediation effect of international entrepreneurial opportunity recognition in explaining the fully mediated effect of international entrepreneurial orientation and technology-related international vision on international market performance.

Nevertheless, the findings from Study One diverge from the work of Chandra et al.,'s (2009) contention that international opportunity recognition is the beginning of the internationalisation process and is essentially what 'triggers' everything off. The findings of this thesis, however, show that international opportunity recognition and the subsequent exploitation of international market opportunities occur after the identification of firm-level resources and Internet capabilities. That is, firms achieve international market performance by identification of resources and Internet capabilities to exploit international entrepreneurial opportunity recognition and achieve performance outcomes.

The findings of this thesis demonstrate the factors influencing the international entrepreneurial opportunity recognition of firms include international entrepreneurial orientation and the vision of international entrepreneurs. Examining the opportunity recognition behaviour exhibited by international entrepreneurs is important for the identification of how international entrepreneurs transcend national boundaries in recognition and enactment of new international market opportunities. A summary of the findings of international entrepreneurial orientation can be seen in Figure 8.4.

Table 8.4 Summary of findings: International entrepreneurial opportunity recognition

Overall findings	
Construct	Summary of key findings from Study One
International entrepreneurial opportunity recognition	<ul style="list-style-type: none"> - The findings from Study One indicate that entrepreneurs are recognising and taking advantage of international opportunity despite some research (Chandra et al., 2009) contending that international opportunity recognition is the beginning of the internationalisation process and is essentially what ‘triggers’ everything off. - The findings from Study Two show that international entrepreneurial opportunity recognition of firms occurs after the identification of firm-level resources and Internet capabilities. - The findings from Study Two indicate that international entrepreneurial opportunity recognition mediates the relationship between international entrepreneurial orientation and international vision of international entrepreneurs.

The findings from Study One and Study Two demonstrate that no single firm-level resource or Internet capability stands to achieve performance, but rather a total or ‘bundle’ of resources and capabilities is required for the firm’s international strategies. In considering the RBV, it is the firm’s ‘bundle’ of resources and Internet capabilities which offers firms an approach to understanding how international market performance can be achieved. As such, this research highlights the importance of a firm’s unique resource ‘bundle’, which is comprised of capabilities (Amit & Schoemaker, 1993; Schoemaker & Amit, 1994; Mahoney & Pandian, 1992), as proposed by Teece et al. 1997 and Teece (2007).

8.4 The key role of international entrepreneurial orientation in firm performance

The second sub-research question (RQ2b) sought to address; ‘*How do international entrepreneurs leverage Internet, international marketing capabilities for international performance?*’ Previous research highlights that the individual dimensions of international entrepreneurial orientation (for example, international innovativeness, international proactiveness and international risk-taking propensity) can have a positive effect on the firm’s international market performance (Knight, 2001; Jantunen et al., 2005; Ripollés- Meliá et al., 2007; Kuivalainen et al., 2007). Three key findings from Study One support the notion that international innovativeness influences the firm’s performance in international markets: (i) firms engaged in new product development via an Internet platform, (ii) the opening of new Internet-related markets and (iii) the use of the Internet to achieve international outcomes was found to be related to increased level

of innovation in an Internet context. In particular, the findings indicate that firms that engage in innovative behaviour and encompass the key nuances of innovation as defined in this thesis stand to achieve international gains that extend beyond performance indicators such as an increase in market share. Importantly, the research findings provide support for the assertion that innovation processes are more important in Internet environments and are critical to a firm's successful pursuit of international markets.

The findings of Study Two suggest that international entrepreneurial orientation does not share a direct relationship with international market performance, as previously predicted by a number of scholars (Zahra & Garvis, 2000; Knight, 2001; Wiklund & Shepherd, 2005; Mostafa et al., 2006; Wang, 2008). Instead, the results of Study Two signify that international entrepreneurial orientation is the only single firm-level resource in the model that influences the deployment of capabilities for opportunity recognition and international market performance. Although the literature has previously digressed around IE theory, this research highlights the pivotal role played by the individual international entrepreneur in achieving international market performance.

Importantly, the findings from Study One also indicate two key findings in relation to how international technology-related proactiveness influences the firm's international market performance. Firstly, the findings demonstrate that international entrepreneurial firms engaged in maintaining a forward-looking perspective, while anticipating the future needs of the firm, are required to be more proactive in terms of seeking out new international opportunities in an Internet context. Secondly, the findings indicate that firms stimulated by opportunity-seeking proactively devoted time and resources to the Internet to systematically track down new international opportunities.

The research findings from Study One also provide support for the key finding that the commitment of resources to Internet-related projects where the risk of failure was moderate is an important component of risk-taking behaviour in an online context. Previous research argues that the Internet can assist in reducing the perceived risk associated with strategic decisions in the internationalisation of the firm (Loane, 2006), considering that the internationalisation processes of the firm are often complex with a high degree of risk of failure (Mathews & Healy, 2007). The findings from Study One

also indicate that the Internet has reduced the traditional barriers of risk faced by firms in the internationalisation process. The key risk factors negated by the Internet, as shown in Study One include; high uncertainty and costs, low information and knowledge risk barriers, and the presence of psychic distance factors, which indicate high levels of risk in a more traditional offline environment.

The findings from Study One also provide support for the argument that firms developing an international entrepreneurial orientation perceive new international market opportunities more quickly, outperform competitors, and improve the international market performance of the firm (Knight, 2001; Jantunen et al., 2005; Mostafa et al., 2006; Ripollés- Meliá et al., 2007; Moreno & Casillas, 2008; Wang, 2008; Slevin & Terjesen, 2011). The research findings diverge from those of Lee et al. (2001), who identified only weak evidence to support the positive relationship between entrepreneurial orientation and international market performance outcomes.

Importantly, the results from Study Two, as shown in Table 8.5, demonstrate a substantial contribution of international entrepreneurial orientation in improving the international market performance of the firm. In particular, the results signify that international entrepreneurial orientation is fully mediated by both technology-related international vision and international entrepreneurial opportunity recognition. The results signify a mediated model whereby international entrepreneurial orientation does not share a direct relationship with international market performance, as previously predicted by a number of scholars (Zahra & Garvis, 2000; Knight, 2001; Wiklund & Shepherd, 2005; Mostafa et al., 2006; Wang, 2008). Instead, the results signify that international entrepreneurial orientation is the only single firm-level resource in the model that influences the deployment of Internet capabilities for the firm's international market performance.

Table 8.5 Summary of findings: International entrepreneurial orientation

Overall findings	
Construct	Summary of key findings from Study One
International entrepreneurial orientation	<ul style="list-style-type: none"> - The findings from Study One show firms developing an international entrepreneurial orientation perceive new international market opportunities more quickly. - The findings indicate that international entrepreneurs with an international entrepreneurial orientation allow managers to outperform competitors and improve the international market performance of the firm. - The research findings diverge from those predicted by Lee et al. (2001), who identified only weak evidence to support the positive relationship between entrepreneurial orientation and international market performance outcomes.
International innovativeness	<ul style="list-style-type: none"> - The findings from Study One show that firms are developing international innovativeness in business through <ul style="list-style-type: none"> (a) New product development via an Internet platform (b) Opening of new Internet-related markets, and (c) The innovative use of the Internet to achieve international outcomes - The findings provide support for the assertion that innovation processes are critical to the firm's successful pursuit of international markets in an Internet environment.
International proactiveness	<ul style="list-style-type: none"> - The findings from Study One demonstrate that international entrepreneurial firms engaged in proactive behaviour <ul style="list-style-type: none"> (a) Maintain a forward-looking perspective (b) Anticipate the future needs of the firm - The findings indicate that firms stimulated by opportunity-seeking proactively devoted time and resources to the Internet to systematically track down new international opportunities. - Firms with a psychical closeness to international markets are more likely to consider their international activities as merely an extension of domestic-based business and are more inclined to proactively commit resources to internationalise to those markets of close geographic proximity.
International risk-taking propensity	<ul style="list-style-type: none"> - The findings from Study One indicate that firms indicated they engaged in risk-taking behaviour by the <ul style="list-style-type: none"> (a) Commitment of resources to Internet-related projects where the risk of failure was moderate - This research indicates that the Internet has negated the traditional barriers of risk faced by firms in the internationalisation process. This diverges from research that suggests otherwise (Loane, 2006; Mathews & Healy, 2007).

8.5 Contributions to international entrepreneurship theory

This thesis identifies a specific ‘bundle’ of capabilities that are required for the firm’s ability in pursuing international opportunities to achieve international market performance. Framed within an Internet context, this thesis provides scholars with an additional means to specify and conceptualise firm-level resources and Internet capabilities required for performance by providing measures useful for future research.

The following discussion is based on the three key theoretical contributions of this research. Firstly, the research contributes to theory where generally a greater emphasis

has been placed on the practice of IE ahead of theory development. Secondly, this research contributes to the empirical validation of resources and capabilities in IE and therefore a discussion of current research from a conceptual standpoint will be provided. Next, much ambiguity exists in defining the Internet capabilities required for the successful performance of firms in international markets; therefore, a discussion of the Internet capabilities required for firms in pursuing international performance will be provided. Lastly, findings from the research indicate that the Internet has reduced the risk perceptions associated with traditional forms of internationalisation. The implications of this contribution for internationalisation theory will also be discussed.

(i) The advancement of theory derived from the practice of international entrepreneurship

Although academic interest in IE is increasing, research and scholarly investigation into the phenomenon is not the catalyst behind the recent momentum of IE. The practice of IE has in recent years developed well ahead of the advancement of theory, and, as a consequence IE theory remains fragmented and devoid of unifying theoretical direction (Coombs et al., 2009; Zahra & George, 2002; Peiris et al., 2012). As such, the diversity of approaches found in the IE literature suggests that a unifying and clear methodological direction is currently remote (Coviello & Jones, 2004). As such, a core contribution of this research lies in its ability to deflect attention back to the importance of the development of theory for the field of IE.

Although IE has benefited from previous research, which has added to the academic and methodological rigor of the field (Peiris et al., 2012), understanding of how and why some international entrepreneurial firms are taking advantage of international market opportunities to achieve successful international market performance in Internet environments is lacking. And despite the growing number of international entrepreneurial firms utilising the Internet to pursue international opportunities, and the international performance potential rising from such activities (Reuber & Fischer, 2012), the IE literature has paid limited attention to this phenomenon. As a consequence, some theoretical approaches to explaining IE are now outdated.

The interviews conducted with key informants in this study suggest that two commonly used approaches to understanding of the performance of international entrepreneurial firms are now outdated. Firstly, studies examining IE from an RBV perspective without considering capabilities fail to provide an accurate understanding of the how firm-level resources, and more specifically Internet capabilities, are influencing the firm's international strategies and performance. The results of this thesis highlight the increased importance of a capabilities approach (Teece, 1986, 2007) in building, integrating and re-configuring the internal and external competencies of the firm to assist businesses who operate in environments characterised by rapid change (Teece et al., 1997). This is because firm-level resources themselves are not a direct source of competitive advantage (Teece, 2007); instead the research findings support the view that resources should be transformed into capabilities in order to achieve superior international market performance (Teece, 2007; Ordanini & Rubera, 2008).

Secondly, the research findings suggest that performance is contingent upon the integration of an aggregation of Internet capabilities, beyond just a singular perspective which has plagued recent studies in IE. To date, most studies identify links between the capabilities of international entrepreneurial Internet firms, yet no model examines the specific capability 'bundle' that may affect the international market performance of the firm. This study, however, offers this model, and provides both international entrepreneurs and international marketing managers with an effective way to utilise and deploy the Internet capabilities as presented in the model for achieving international market performance.

(ii) The empirical validation of resources and capabilities in international entrepreneurship

Empirical research in IE studies examining the firm-level resource and capability development of firms remains at a relatively conceptual level. As a consequence, there is a lack of empirical validation of the specific variables that might affect the international market performance of the firm. The majority of the research in the emerging IE field is also generally characterised by studies focusing on quantitative analysis, and as a result, complex processes in building and deploying resources and Internet capabilities are not

being captured, unless at a narrow level (Coviello & Jones, 2004). As such, a quantitative approach dominates IE (Coviello & Jones, 2004; Coviello & McAuley, 1999), with the bulk of data emphasising inferential statistics and hypothesis testing. This finding reflects a perceived need by researchers to provide ‘significant’ empirical evidence in order to justify research in a new field (Coviello & Jones, 2004). As such, qualitative approaches to IE are fewer in number, representing weakness in the field, which is concerned with behaviour and value-creating processes (McDougal & Oviatt, 2000). This research has contributed to the field of IE by providing an increased understanding of IE, by bringing together both qualitative and quantitative methodologies to explore a complex phenomenon.

Research also suggests that IE research has focused too narrowly on singular method studies, relying on either quantitative, aggregate-level data, or qualitative context-specific data only (Coviello & Jones, 2004). To date, there is general consensus in the literature that there has been an increased emphasis placed on pattern identification/matching, and explanation building (Coviello & Jones, 2004) rather than analytic approaches to the statistical validation of constructs. Because IE remains at a relatively nascent stage, a number of researchers (Knight, 2001; Zahra & George, 2002; Oviatt & McDougall, 2005) have argued that employing both qualitative and quantitative methodologies will ensure research contributions in IE move away from basic conceptualisation to identifying new theories and statistical validation of constructs. Furthermore, this research has addressed this call for mixed-method research contributions by employing the use of both qualitative and quantitative methods.

(iii) Identification of the key Internet capabilities required for international performance.

Previous research widely acknowledges the importance of the Internet as one of the most important tools for modern day business (Petersen et al., 2002; Loane et al., 2004; Mostafa, et al., 2006; Loane, 2006; Mathews & Healy, 2007). Current research has attempted to explain the Internet’s impact on the internationalisation of firms (Petersen et al., 2002; Loane, 2006). Predominantly, research highlights the positive impact of the Internet on the firm, but neglects the significant influence of the international entrepreneur’s role in exploiting Internet capabilities for the international business

processes of the firm (Glavas & Mathews, 2014a). With the exception of a small number of studies, researchers to date have paid limited attention to the relationship between IE and the firm-level resources and Internet capabilities required for firms in achieving international market performance (Aspelund & Moen, 2004; Loane et al., 2004; Loane, 2006; Mostafa et al., 2006; Morgan-Thomas, 2009; Reuber & Fischer, 2011). To date, most research (e.g. Aspelund & Moen, 2004; Mostafa et al., 2006) identifies the potential for links between resources, capabilities and performance, but no one model examines the specific resources and Internet capabilities that may affect the performance outcomes firms operating in an Internet environment.

Confirmation and modelling of the model also further indicates an explicit link between firm-level resources and Internet capabilities. The key research findings support the work of Eisenhardt and Martin (2000) and Winter (2003), who argue that capabilities do not directly influence a firm's performance, but rather indirectly through a mediating variable, such as international entrepreneurial opportunity recognition. As such, the research findings extend the IE literature in two key ways. First, the research findings contribute to the IE literature by examining the role of firm-level resources and the Internet capabilities of international entrepreneurial firms. This contribution addresses the gap in the literature by identifying a key 'resource and Internet capability bundle', related to the firm's international market performance, in an Internet environment.

Secondly, the results support the contribution of capabilities in improving the firm's international market performance as predicted by Teece (2007). More specifically, the findings support the assertion that capabilities are required for firms to deploy and reconfigure resources to generate firm growth (Teece et al., 2007; Pisano, 1994). This means that firms can ultimately re-deploy firm-level resources and capabilities to respond to changing market circumstances in environments characterised by rapid and unpredictable change, such as Internet environments. This is particularly important for SMEs as their inherent flexibility enhances the ability of the firm to transform ideas into business activities that can support the firm's international performance strategies (Weerawardena et al., 2007; Lewin & Massini, 2003; Wu, 2006; Liao et al., 2009). Overall, this complex understanding highlights the increased importance of international

entrepreneurial SMEs in acquiring and deploying Internet capabilities in environments characterised by rapid change to achieve and sustain international market performance outcomes.

(iv) Risk perceptions associated with the Internet and implications for internationalisation process theory

It has been suggested that the Internet can also assist in reducing the perceived risk associated with strategic decisions in the internationalisation of the firm, considering that the internationalisation processes of the firm are often complex with a high degree of risk in failure (Mathews & Healy, 2007). The findings of this research indicate that Internet, international marketing capabilities have had a positive effect on lowering the perceived risk in internationalisation and aid in reducing the key risk factors of traditional internationalisation such as, high uncertainty and costs, low information and knowledge and the presence of psychic distance factors. This is in contrast to much of the internationalisation literature, which highlights that high risk and uncertainty are constraining factors for the impetus of firm internationalisation (Liesch, Welch & Buckley, 2011). Recent research also states that in the early stages of internationalisation, various firms have been found to be lacking basic information and knowledge about, and experience in, the international marketplace and the ‘practicalities’ of international activity which add to risk perceptions (Liesch et al., 2011).

This research shows however, that the perception of high risk is lowered however when firms engage in internationalisation activities via the Internet. The findings have implications for traditional internationalisation theories, such as the Uppsala model of internationalisation which has long proposed that firms move into international markets gradually, and where learning about international operations and commitment to international business are coupled. The findings of this research begin to show how risk can be reduced in the internationalisation process because Internet, international marketing capabilities such as the ability to utilise the Internet as a sales channel, have a positive impact on the internationalisation of the firm; thus, lowering the ‘overestimation’ that internationalisation activities are high risk.

8.6 Managerial contributions

This research offers three managerial contributions that are important for international entrepreneurs: (i) identification of a strategy tool to reconfigure existing resources and capabilities, (ii) identification of the levels of innovation required for international performance, and (iii) identification of the need to recruit employees with an international entrepreneurial orientation.

(i) Identification of a strategy tool to reconfigure existing resources and capabilities

The research findings indicate a number of variables influencing the international market performance of the firm. The firm-level resources and Internet capabilities exhibited in Table 8.6 indicate the ‘essential’ and ‘desirable’ resource capabilities that managers can utilise to in order to achieve international market performance outcomes. International entrepreneurial managers can use these key capabilities as tools to reconfigure the existing resource base to achieve performance. The essential firm-level resources required for firms to achieve performance in international markets include international entrepreneurial orientation and international entrepreneurial opportunity recognition. The findings of this thesis indicate that these two components of a firm’s resource base are critical for international business strategy. Similarly, Internet, international marketing capabilities are also a critical firm-level capability. ‘Desirable’, but not essential to the firm’s progression in international markets, technology-related international vision and international virtual networking capabilities are not important components for the international market success of Internet firms, but may be more beneficial for non-entrepreneurial firms.

Table 8.6 Essential and desirable resources and capabilities for practice

Summary of resources and Internet capabilities for practice	
<i>'Essential' Internet capabilities, capabilities and firm-level resources</i>	
Capabilities	Firm-level Resources
*International entrepreneurial opportunity recognition * Internet, international marketing capability	* International entrepreneurial orientation
<i>'Desirable' Internet capabilities, capabilities and firm-level resources</i>	
Capabilities	Firm-level Resources
International virtual network capabilities	Technology-related international vision

Note. * Internet, international marketing capabilities, international entrepreneurial opportunity recognition and international entrepreneurial orientation interconnect. Thus, this table provides some explanation as to why some firms are achieving 'superior' international market performance far beyond competitors.

(ii) Identification of the levels of innovation required for international performance

While the final model of 'Capabilities in IE' shows an aggregate or total of variables required for firms to achieve international performance outcomes, innovation is perhaps one of the most important resources for internationally focused business operating in an Internet environment. For instance, the research findings show a clear relationship between the acceptance and application of the Internet and the development of new innovative products to increase customer value in Internet environments. Because the Internet has become increasingly competitive, firms need to ensure they are more innovative in an online environment. This research shows that firms can become more innovative in an online environment through developing new products, opening up new markets, and strategic use of the Internet to achieve successful international outcomes. The findings of this thesis also suggest that firms placing a greater emphasis on innovation in an Internet environment will stand to achieve increased international market performance outcomes.

(iii) Identification of the need to recruit employees with an international entrepreneurial orientation

The findings of the research show that while the Internet has been one of the most important tools for internationally focused businesses in recent times (Petersen et al., 2002; Loane, 2006; Mathews & Healy, 2008; Mathews et al., 2012), the 'human'

component of IE remains important. This thesis shows that while capabilities such as Internet, international marketing capabilities are important for the firm's progression in international markets, international entrepreneurial orientation plays a substantial role in the international market performance outcomes of the firm. As such, international entrepreneurs should seek to recruit employees with an international entrepreneurial orientation. That is, international entrepreneurs should consider recruitment of employees that exhibit innovative behaviours, those who are forward-looking and proactive, and those who are willing to take risks in an international business environment.

8.7 Limitations and directions for future research

Research limitations are inherent in all research studies and can be addressed in future research. As such, a discussion of the five key limitations of this research is provided in conjunction with the directions for future research. The key limitations include (i) the nature of international entrepreneurs, (ii) the context of the Internet, (iii) the context of SMEs, (iv) the context of an Australian study, and (v) consideration of other Internet capabilities.

(i) The nature of international entrepreneurs

The evidence gathered in this thesis is based on self-reporting, which raises the potential for social desirability response bias. Social desirability bias is a long-standing issue for IE researchers. The appropriate selection of key informants for this study was a critical consideration, necessary for the accuracy of responses, and in the elicitation of the international entrepreneur's knowledge. The selection of key informants was conducted in accordance with Huber and Power's (1985) guidelines in determining the appropriateness of informants such as owner/founders. Since only one international entrepreneur per firm was accepted for this study, Huber and Power (1985) suggest that an attempt should be made to identify the person most knowledgeable in regards to the issue of interest. As such, questions relating to the international entrepreneur's key role within the firm were asked to ensure only owner/founders were recruited. The necessity for honesty and accuracy in the responses provided by the informants was also emphasised prior to the commencement of the interviews and the online questionnaire.

Common method bias was also tested by use of the Correlated Marker Technique (Lindell & Whitney, 2001). The marker variable Delta indicated that only minimal paths in the structural model were affected by common method bias. Future research should seek to verify the results of this thesis through replication of the research.

(ii) The context of the Internet

A contextual factor that constitutes a boundary condition restricting the generalisability of the findings presented is the context of the Internet. Although the research sample consisted of firms actively operating in an Internet environment, firms' Internet use ranged from limited to extensive. Because markets are becoming increasingly global in nature (Reuber & Fischer, 2011), investigation of how international entrepreneurial firms were pursuing opportunities in an Internet environment was essential. This is because Internet environments can support international business by enabling access to international markets and lowering transaction costs (Kontinen & Ojala, 2010), while improving the efficiency of communications and the flow and exchange of information and knowledge (Gabrielsson, et al., 2004; Prasad et al., 2001, Loane, 2006). Because the results of the research have important implications for firms operating in an Internet environment, future research should seek to validate the findings as presented in the final model, and/or identify any other variables influencing IE in an Internet environment.

(iii) The context of SMEs

The findings in this research are drawn only from SMEs employing between 1 and 200 people (ABS, 2012). A discussion of context is imperative, given that it establishes where situational opportunities are apparent (Johns, 2006; Zahra, 2007). Because the research findings are specifically delimited to SMEs, a question in relation to whether the findings of the research are less applicable to other specific types of firms, such as multi-national corporations, could be raised (Reuber & Fischer, 2011). From an RBV perspective, there is variation in what firms do to succeed in business. The research findings in the final model are endogenous to the SME context of the study. As such, future research should consider investigation of IE from an RBV and capabilities perspective with firms not included in the scope of this study. Such firms may include micro enterprises and large

multi-national corporations. International entrepreneurial behaviour may still be present beyond the SME scope and therefore future research is warranted.

(iv) The context of an Australian study

This study is delimited to the investigation of Australian firms only. Although this study's sample appears to approximate national representativeness, the broader generalisability of the research findings is limited. This is because population parameters were limited and confined to Australian firms. It is not known whether international entrepreneurs in other countries share similar value or culture systems, or utilise the same firm-level resources or Internet capabilities to achieve international market performance. As such, further research should consider replication of this study in a cross-cultural context. That is, future research which seeks to identify the key firm-level resources and Internet capabilities of international entrepreneurial firms should consider a sample beyond Australia, to include other international markets. This cross-national comparison will ensure richness in geographic coverage of IE (Coviello & Jones, 2004). As noted by Tan (2002), researchers employing cross-cultural comparisons will need to distinguish between both cultural and national effects on IE behaviour.

(v) Consideration of other key Internet capabilities

This study investigates IE from the RBV of the firm. The thesis indicates that international entrepreneurial orientation plays a pivotal role in influencing the application of Internet capabilities for international market performance. Opportunities for future research exist in utilising mixed-method approaches to verify the findings of this thesis and to identify whether there are any other Internet capabilities influencing the international market performance of firms. Other key Internet capabilities could include online marketing-related capabilities, which are required for firms to exploit potential benefits that can ensure online innovation and customisation of an Internet presence to achieve performance outcomes (Park, Mezas & Song, 2004; Reuber & Fischer, 2011). Empirical studies have also shown that online marketing-related capabilities can influence a firm's development of technological competencies for positive performance outcomes (Prasad et al., 2001). As such, more focused attention on whether other key Internet

capabilities are influencing the international market performance of the firm is required. Adopting a mixed-method approach will also assist in improving the current state of the IE field, where theory remains in a position of fragmentation (Coombs et al., 2009; Zahra & George, 2002; Peiris et al., 2012).

8.8 Summary

Overall, this research has specifically addressed three pertinent gaps within the IE literature. Firstly, most studies to date have only started to identify the links between the application of the Internet and the factors that may influence the performance of firms. Although the RBV approach has previously been applied to the internationalisation of firms, no one model has specifically examined the relationship between Internet capabilities and a firm's international market performance, in conjunction with firm-level resources. This thesis has addressed this gap in the literature by identification of the firm-level resources (*international entrepreneurial orientation*), which coincide with capabilities (*international entrepreneurial opportunity recognition, Internet, international marketing capabilities*) in a model that predicts how international market performance is achieved. The findings of this thesis also indicate that international market performance is contingent upon the integration of an aggregation or total of resources and Internet capabilities beyond just a singular perspective.

Secondly, this thesis has added to the IE literature by providing an understanding of how firm-level resources and Internet capabilities are being characterised and how these resource capabilities are influencing the firm's progression towards achieving international market performance. The findings of this research indicate that the Internet is a strategic capability that assists firms in achieving operational efficiency and functionality when operating internationally. More importantly, the findings indicate that firm-level resources and capabilities are a critical variable to the successful pursuit of international marketing opportunities. Although previous discussions in the literature begin to highlight the impact of the Internet on international market performance, this research has identified Internet, international marketing capabilities as a critical component of the firm's progression to international markets. That is, this research has shed light on the impact of Internet, international marketing capabilities, which have

previously not been identified in the literature. Specifically, this thesis extends RBV to IE by providing a model of firm-level resources and Internet capabilities, which suggests that Internet, international marketing capabilities can combine with other resources such as *international entrepreneurial opportunity recognition* and, capabilities such as *international entrepreneurial orientation* to facilitate superior international market performance.

Thirdly, this research has fulfilled a gap within the IE literature by understanding of the positive influence of the individual international entrepreneur in exploiting firm-level resources and Internet capabilities to achieve international market performance. Predominantly neglected in prior studies of IE, the international entrepreneurial orientation of the international entrepreneur is an important catalyst for driving internationalisation within the firm. The findings of this thesis also suggest that international entrepreneurial orientation does not share a direct relationship with international market performance, as previously predicted by a number of scholars (Zahra & Garvis, 2000; Knight, 2001; Wiklund & Shepherd, 2005; Mostafa et al., 2006; Wang, 2008). Instead, international entrepreneurial orientation is the only single firm-level resource influencing the deployment of Internet capabilities for opportunity recognition and international market performance. Although the literature has previously digressed around the theory, this research highlights the pivotal role played by the international entrepreneur in facilitating increased financial and non-financial international market performance outcomes for the firm.

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APPENDIX

Appendix 1. Interview Protocol

CONFIDENTIAL

Interview Protocol

An investigation of the inter-relationships between firm resources, capabilities and international market performance.

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INTERVIEW PROTOCOL

Case number	-----	Interview number	-----	Date	-----
Business name	-----				
Interviewee's name	-----				
Interviewee's job title	-----				
Interview location	-----				
Interview start time	-----	Finish time	-----		

PART A: OPENING: Thank the participant for their time

Firstly, thank you for taking the time today to have this discussion with me. This PhD research would not be possible without your valuable contribution. We have come together today to discuss the resource capabilities of your firm and how you are using technology, such as the Internet to leverage your firm's international market performance. It is expected that the outcomes of this PhD research will assist international entrepreneurs, such as yourself, in identifying your firms unique resources and capabilities that can be used to explore international markets, including the ability to adapt the firms services and products to foreign market needs. These key findings will further assist internationally focused firms in understanding foreign market needs and demands, but also facilitate the development of knowledge crucial for internationalisation.

PART B: AIM OF THE RESEARCH: Explain the outcome of the PhD research

The aim of this PhD research is to explore and investigate an under-researched topic: the relationship between capabilities, resources, the Internet and the international market performance among international entrepreneurial firms. The aim of this PhD research is to demonstrate the role of a firm's unique resource/capability bundle on the international market performance of the firm.

PART C: PROCESS OF THE INTERVIEW: Explain how the interview will operate

In regards to our discussion today, there are no right or wrong answers to the questions we will discuss. I am simply interested in your opinions and experiences. This is totally confidential conversation and information I record, such as your **full-name** and **demographic information** will not be kept by the researcher or Queensland University of Technology. For the safety of yourself and your firm, I will disguise your name, company name and any personal identifying information in the final report, so you remain

anonymous, unless prior permission in writing has been obtained by you to reveal your identify. All undisguised information will not be made public, nor will the information be given to a third party outside of my direct primary supervisor Dr. Shane Mathews. Today's process involves a conversation to discuss your opinions and experiences about the types of resources your firm uses to attract and attain customers in international markets. The complete interview process will take approximately one hour. I would like to tape record today's session, as I will be transcribing this discussion for analysis purposes. When I have completed the analysis, I will provide participants with a copy of the summary report for feedback and to ensure that your views have been appropriately represented.

As part of the University's ethical clearance policies, you are required you to complete the two forms in front of you:

1. **An ethical clearance form**; it is a requirement of the university's research policy to complete this form. The document outlines that the research team will respect your confidentiality and that any information discussed here today will not be used to personally identify participants here today in any publications or conference discussions.
2. **An informant details sheet**; general demographic information about you. Only members of the research team will be privy to this information.

If you require confirmation or further details about the research project you can contact my primary PhD supervisor:

Dr Shane Mathews- Primary Supervisor

School of Advertising, Marketing and Public Relations
Queensland University of Technology

Phone: 3138 5310
E- mail: sw.mathews@qut.edu.au

If you require any information in regards to the ethics of this PhD research project, you are instructed to contact, Dr. Marilyn Healy:

Dr Marilyn Healy- Business School Ethics Advisor

Queensland University of Technology

Phone: 3138 7651
E- mail: m.healy@qut.edu.au

Just before we start, can I please get you to state your name and your businesses name?

PART D: OPENING QUESTIONS (10 MIN)

Objective: To obtain general business information and participant details

1. Are you the owner/ founder of this firm? If so, are you also the central decision maker within the firm? If so, can you tell me about the types of decisions you make in your firm on a daily basis?
2. Can you please tell me about the nature of your business? Do you export products, services or both?

3. What is the age of the firm?
4. How many people does your business employ?
5. How many offices do you have?

PART E: INTERNATIONAL ENTREPRENEURIAL ORIENTATION (15 MIN)

Objective: To explore the degree to which the participant is internationally entrepreneurially oriented

6. Do you use the Internet to attract customers in overseas markets? If so, what types of technologies do you use?
7. Are you likely to make investments in new international projects that are risky? If so, will the use of the Internet play a role?
8. Do you consider yourself to be highly innovative within your firm? If so, can you please give me an example/s of something different or new you have done in the past year to do with your international customers?
9. How important is it for you to be continually innovative within your firm? **(Tick)**

IMPORTANCE OF INTERNATIONAL INNOVATION				
No importance	slight importance	Moderate importance	Strong importance	Very strong importance

PART F: INTERNATIONAL VISION (15 MIN)

Objective: To explore the international vision/ motivations of the international entrepreneur

10. Do you intend to target any country markets within the next two years? Which markets and why?
11. Do you aspire to increase the number of your current international customer database? If so, will the Internet play a role in increasing the number of international customers?
12. Where do you envisage your firm to be in five years time?
13. How important is it for you to have an international vision in your firm? **(Tick)**

IMPORTANCE OF INTERNATIONAL VISION				
No importance	slight importance	Moderate importance	Strong importance	Very strong importance

PART G: INTERNATIONAL BUSINESS EXPERIENCE (20 MIN)

Objective: To explore the prior and current international experience of the international entrepreneur

14. Can you please tell me about the level (if any) of education that you have attained?
15. Do you have previous international business experience? If so, can you tell me about your previous experience?
16. Can you please indicate how important to you is your international business experience? **(Tick)**

IMPORTANCE OF INTERNATIONAL BUSINESS EXPERIENCE				
No importance	Slight importance	Moderate importance	Strong importance	Very strong importance

17. How many years experience do you have in this industry?
18. How many years experience do you have in this current business?
19. Have you previously used technology such as the Internet in your previous international business experience?

PART H: INTERNET INTERNATIONAL MARKETING CAPABILITIES (15 MIN)

Objective: To explore the extent to which the firm utilises the Internet as an international marketing tool.

20. To what extent does your firm use the Internet? (Tick) & (Rate importance to your business with a tick)

INTERNET USE						
MEDIUMS	TICK	No importance	Slight importance	Moderate importance	Strong importance	Very strong importance
Third party websites						
Official business website						
Advertising and marketing						
Online sales						
After sales service and support						
Online purchasing						
Market research						
Email						
Contact overseas customers						
Contact overseas suppliers						
International market management						
Exchange of operational data with suppliers						
Exchange of operational data with customers						
Internet videoconferencing						
Recruit personnel						
Receiving overseas enquiries						
Receiving overseas orders						
Identify foreign competitors						
Identify foreign markets						
Identify potential business partners						
Identify potential foreign customers						
Dealing with international public authorities						

21. Do you think that the use of the Internet has helped to generate international awareness of your firm?
22. Does your firm place a strong emphasis on technological leadership? If so, why is this important?

PART I: INTERNATIONAL NETWORK CAPABILITIES (15 MIN)

Objective: To explore the extent to which the firm has and/ or is using international networks within the firm.

23. Do you have international business networks? If so, can you please explain the types of international networks you have?
24. How important are your international networks to you? (Tick)

IMPORTANCE OF INTERNATIONAL NETWORKS				
No importance	Slight importance	Moderate importance	Strong importance	Very strong importance

25. Has the Internet impacted on the development and maintenance of your international network relationships? If so, can you please explain why?
26. In your opinion, do you think that your international networks have influenced your firm's international market performance? Why do you think so?

PART J: INTERNATIONAL MARKET PERFORMANCE (10 MIN)

Objective: To explore the firm's international market performance success.

27. Can you please tell me how many years your firm has been exporting?
28. Can you please tell me the number of countries/ markets your firm currently exports to?
29. Which country did your firm first export to? (Tick)

FIRST EXPORT MARKET								
NZ	US	UK	CANADA	JAPAN	CHINA	INDONESIA	SINGAPORE	TAIWAN
<i>OTHER:</i>								

30. What are the top five countries you export to? Briefly, why are they the top five? (Tick)

TOP FIVE EXPORT MARKETS								
NZ	US	UK	CANADA	JAPAN	CHINA	INDONESIA	SINGAPORE	TAIWAN
<i>OTHER:</i>								

31. Has the Internet influenced the way in which you export your product/ service? If so, how?

PART K: WRAP UP

Objective: To conclude the interview and thank participant for their time.

32. Do you have any other comments in relation to the questions I have asked you today?
33. Can you provide the details of anyone who you think may be useful for this PhD research project?

*Finally, thank you for your time
Your input will be valuable for this PhD research.*

Appendix 2. Questionnaire

PARTICIPANT INFORMATION FOR QUT RESEARCH PROJECT

International Entrepreneurship in an Internet environment

QUT Ethics Approval Number
120000678



RESEARCH TEAM

Principal Researcher:

Charmaine Glavas - PhD Candidate, AMPR: QUT Business School

Associate Researchers:

Dr. Shane Mathews - Principal Supervisor, AMPR: QUT Business School

Prof. Rebekah Russell-Bennett - Associate Supervisor, AMPR: QUT Business School

DESCRIPTION

This project is being undertaken as part of a PhD for Charmaine Glavas, at Queensland University of Technology (QUT). The purpose of this project is to explore the relationship between technology and a firm's resource capabilities and international market performance. To do this you will be asked to evaluate statements relating your firms international business practices by ranking a variety of statements according to 'strongly disagree' to 'strongly agree'. You are invited to participate in this project because you are the owner/ founder of your firm and you have international customers.

PARTICIPATION

Your participation in this project is entirely voluntary. If you do agree to participate you can withdraw from the project without comment or penalty prior to submitting your fully completed survey. Any information already obtained from you will be deleted. However, once you agree to submit your completed online survey you will not be able to withdraw your data as it is anonymous and your data will not be able to be identified. Your decision to participate or not participate will in no way impact upon your current or future relationship with QUT. Participation will involve completing an anonymous online survey. This online survey will take 10-12 minutes of your time. Questions will include: The firms is committed to servicing international customers- Rank 1-7: *strongly disagree to strongly agree*. If you agree to participate you will have to complete all of the questions, some of which you may be uncomfortable answering. However, the responses you provide are completely anonymous in the survey.

Please also not that if you need to seek further information in regards to the questions presented, please do so. For example, you may need to seek further information from your chief financial officer in regards to the financial performance questions.

EXPECTED BENEFITS

Your participation in this project will be aiding the academic community in developing a better understanding of how managers recognise and take advantage of international opportunities. The results of this PhD study may be beneficial for firms in identifying the resources and capabilities which lead to improved international market performance. A summary of the results will also be made available (upon request).

RISKS

There are no risks beyond normal day-to-day living associated with your participation in this survey. Further, the research team does not believe that there are any risks for you if you choose to participate in this research. It should be noted that if you do agree to participate you can withdraw from the project without comment or penalty prior to submitting your fully completed survey. Any information already obtained from you will be deleted. However, once you agree to submit your completed online survey you will not be able to withdraw your data as it is anonymous and your data will not be able to be identified.

PRIVACY & CONFIDENTIALITY

All comments and responses are anonymous and will be treated confidentially. The names of individual persons are not required in any of the responses. Any data collected as part of this project will be stored securely as per QUT's Management of research data policy. Please note that data collected in this project may be used as comparative data in future projects.

CONSENT TO PARTICIPATE

Submitting the completed online survey is accepted as an indication of your consent to participate in this project.

QUESTIONS / FURTHER INFORMATION ABOUT THE PROJECT

If have any questions or require any further information, such as s summary of the research results please contact: Charmaine Glavas – PhD Candidate (Principal Researcher) AMPR: QUT Business School (07) 3138 8074 or Email charmaine.glavas@qut.edu.au

CONCERNS / COMPLAINTS REGARDING THE CONDUCT OF THE PROJECT

QUT is committed to research integrity and the ethical conduct of research projects. However, if you do have any concerns or complaints about the ethical conduct of the project you may contact the QUT Research Ethics Unit on [+61 7] 3138 5123 or Email ethicscontact@qut.edu.au. The QUT Research Ethics Unit is not connected with the research project and can facilitate a resolution to your concern in an impartial manner.

ACCURACY AND HONESTY IN RESPONSES

Please not that accuracy and honesty in their answers will assist in building a better understanding of how firms are using their resource and capability base to achieve successful international market performance in Internet-enable environments.

***Thank you for helping with this research project. Please keep this sheet for your information.
'The focus of this survey is on how your firm uses resources and Internet capabilities to achieve international market successes. Your accuracy and honesty in answering these questions for the development of theory is greatly appreciated'***

Pre-survey screening questions

The following questions concern your business.

Please indicate (by selecting the appropriate box), either YES or NO

- Q1.** Do you own a business?
- (a) Yes
 - (b) No
- Q2.** Is the firm Australian owned?
- (a) Yes
 - (b) No
- Q3.** Are you Australian?
- (a) Yes
 - (b) No
- Q4.** Are you the founder of the business?
- (a) Yes
 - (b) No
- Q5.** How many employees does your business have?
- 1- 5
 - 6- 20
 - 21- 200
 - Above 200

Part A: International entrepreneurial orientation

The following questions concern your international entrepreneurial orientation within the firm. Please indicate (by selecting the appropriate box) the extent of agreement or disagreement.

Scale anchor: (1) strongly agree – (7) strongly disagree

- Q6.** The firm tends to see the world as the firm's marketplace?
- Q7.** The culture at our firm is to actively explore new business opportunities internationally?
- Q8.** The firm continuously communicates its mission to succeed in international markets?
- Q9.** The firm develops resources (such as financial and human) for achieving our goals in international markets?
- Q10.** The firm is experienced in international business?
- Q11.** Over the past 5 years, our firm has marketed many products in international markets?
- Q12.** In international markets, the firm has a tendency to take on high-risk projects?
- Q13.** The firm is willing to go to great lengths to make our products succeed in international markets?
- Q14.** The drive of managers in the firm is important in our decision to enter international markets?

Part B: Technology-related international vision

The following questions concern your international vision within the firm. Please indicate (by selecting the appropriate box) the extent of agreement or disagreement.

Scale anchor: (1) strongly agree - (7) strongly disagree

- Q15.** The firm is committed to servicing international customers on the Internet?
- Q16.** The firm commits sufficient human (e.g. staff) and financial resources (e.g. capital) to technology for international market (s)?
- Q17.** The firms emphasises the importance of technology for international growth.
- Q18.** The firm views managerial technology experience as important for entering international market (s)?
- Q19.** The firm views international growth through the Internet as achievable?

Part C: International business experience

The following questions concern your international business experience. Please indicate (by selecting the appropriate box).

- Q20.** Please indicate the number of years experience related to export work you have as an owner/founder?

Scale anchor:

- (1) None
- (2) 1-2
- (3) 2-3
- (4) 4-5
- (5) 5-6
- (6) 7-8
- (7) 8 years or more

- Q21.** What is the number of previous entrepreneurial ventures where you have played a similar management role?

Scale anchor:

- (1) None
- (2) 1-2
- (3) 2-3
- (4) 4-5
- (5) 5-6
- (6) 6-7
- (7) 8 ventures or more

- Q22.** What is your highest level of education?

Scale anchor:

- (1) No formal education
- (2) High school
- (3) Certificate level
- (4) TAFE/ technical college equivalent

- (5) Undergraduate
- (6) Postgraduate - *including Masters*
- (7) Doctoral Degree

Part D: Internet, international marketing capability

The following questions concern your firms Internet use. Please indicate (by selecting the appropriate box) the extent of agreement or disagreement.

Scale anchor: (1) limited use - (7) extensive use

- Q23.** Please indicate your firms Internet usage.
- (a) Email
 - (b) Official company website
 - (c) Advertising and marketing
 - (d) Online sales
 - (e) After sales service
 - (f) Market research
 - (g) Identify competitors
 - (h) In-house software development

- Q24.** Please indicate how much time is devoted in your firm to the strategic use of the Internet through the following categories.

All categories must add up to 100%. Please indicate the percentage in the space provided:

- (a) Email
- (b) Official company website
- (c) Advertising and marketing
- (d) Online sales
- (e) After sales service
- (f) Market research
- (g) Identify competitors
- (h) In-house software development

The following questions concern your firms Internet use. Please indicate (by selecting the appropriate box) the extent of agreement or disagreement.

Scale anchor: (1) strongly agree - (7) strongly disagree

- Q25.** Ability to leverage technology is important in my firm?
- Q26.** Renewal of technology is important in my firm?
- Q27.** Investment in technology has lead to greater international sales?
- Q28.** The firm has strong IT operations capabilities?
- Q29.** The firm has the technological infrastructure and competencies to engage in e-commerce initiatives?

Part E: International virtual network capability

The following questions concern the virtual business networks within the firm. Please indicate (by selecting the appropriate box) the extent of agreement or disagreement.

Scale anchor: (1) strongly agree - (7) strongly disagree

- Q30. The firm uses the Internet to maintain international customer relationships?
- Q31. The firm uses the Internet to strengthen existing international relationships?
- Q32. The firm uses the Internet to develop longer lasting international relationships?
- Q33. The firm uses the Internet to acquire new international customers?
- Q34. The firm uses the Internet to enter new international country market (s)?
- Q35. The firm uses the Internet to enhance our firm's international performance?

Part F: International entrepreneurial opportunity recognition

The following questions concern your opportunity recognition within Internet international markets. Please indicate (by selecting the appropriate box) the extent of agreement or disagreement.

Scale anchor: (1) strongly agree - (7) strongly disagree

- Q36. The firm actively seeks out new international market opportunities?
- Q37. When we see a new international market opportunity we invest resources to exploit the new international opportunity?
- Q38. We pursue international opportunities regardless of the resources the firm may or may not have?
- Q39. The firm has many formal or informal processes that evaluate the effectiveness of its activities in international markets?
- Q40. We believe that recognising international opportunities and exploiting these opportunities adds value to the firm?

Part G: International market performance

The following questions concern your firm's international market performance. Please indicate (by selecting the appropriate box) the extent of a decrease or increase since internationalisation.

Our performance outcomes since we have become international have significantly decreased or significantly increased in:

Scale anchor: (1) significantly increased - (7) significantly decreased

- Q41. International market share?
- Q42. International growth?
- Q43. International sales growth vs. competitors?
- Q44. International profitability?
- Q45. Overall international performance?

The following question concerns your firm's international market performance. Please indicate (by selecting the appropriate box) the extent of satisfaction.

Scale anchor: (1) dissatisfied - (7) satisfied

- Q46. How satisfied have you been with your international activities during the last five years?
- Q47. The following questions concern your firm's product characteristics. Please indicate by selecting the appropriate box. In my firm the company's product/s...

Scale anchor: (1) strongly agree - (7) strongly disagree

- (a) is/ are classified as sophisticated?

- (b) is/ are complex in nature
- (c) need(s) specialised know how to market
- (d) take(s) a long time to learn about
- (e) has/ have a large proportion that is technological in nature
- (f) need(s) a high level of specialised service

Part H: Demographic information and general business background

Q48. What is your age?

Scale anchor:

- a) Under 20 years old
- b) 20-24
- c) 25-29
- d) 30-34
- e) 35-39
- f) 40-44
- g) 45-49
- h) 50-54
- i) 55-59
- j) 60-64
- k) 65-69
- l) 70 years old or over

Q49. What is your gender?

Scale anchor:

- a) Male
- b) Female

Q50. My business sells

Scale anchor:

- a) Products
- b) Services

Q51. The industry our firm operates in is?

Scale anchor:

- a) Consumer goods
- b) Information communication technology
- c) Manufacturing
- d) Professional business services
- e) Tourism

Q52. What percentage of the firm's total gross sales generated from international customers over the last 12 months?

Please indicate gross sales in percentage

Q53. What is the firm's total revenue of sales over the last 12 months?

Scale anchor:

- a) \$20,000 or below
- b) \$20,001- \$50,000
- c) \$50,001- \$100,00
- d) \$100,001- \$150,000
- e) \$150,001- \$200,000
- f) \$200,001- \$300,000
- g) \$300,001- \$400,000
- h) \$400,001- \$500,000
- i) \$500,001- \$1 million
- j) above \$1 million- \$2 million
- k) above \$2 million- \$3 million
- l) above \$3 million- \$4 million
- m) above \$4 million- \$5 million
- n) above \$5 million- 10 million
- o) above \$10 million- \$15 million
- p) above \$15 million- \$20 million
- q) above \$20 million- \$25 million
- r) above \$25 million- \$30 million
- s) above \$30 million- \$35 million
- t) above \$35 million- \$40 million
- u) above \$40 million- \$45 million
- v) above \$45 million- \$50 million
- w) above \$50 million

Questions Q54 through to Q60 are open-ended ordinal questions

- Q54.** What year was your business established?
- Q55.** What is the number of countries you have customers in?
- Q56.** In what year did you gain your first international market?
- Q57.** What was the first international country your firm exported to?
- Q58.** What are your top five international countries you export to?
- Q59.** What is your firm's postcode?
- Q60.** Do you have any further questions or information you would like to provide the research team?

*Finally, thank you for your time
Your input will be valuable for this PhD research.*

Appendix 3. Expert reviews for the pre-testing of the questionnaire

Academic institution	Expertise	Outcome
<i>Provided feedback on the content and knowledge behind the questionnaire</i>		
Dr Shane Mathews Queensland University of Technology	Expert in SEM and has published research in International Business and Marketing journals.	Feedback for minor adjustments to terminology
Professor Per Davidsson Queensland University of Technology	Director, Australian Centre for Entrepreneurship Research, highly regarded entrepreneurship scholar.	Measurement refinement
Professor Rebekah Russell- Bennett Queensland University of Technology	Familiar with entrepreneurship studies and SEM.	Questionnaire design and content
<i>Provided feedback on structure and design of the questionnaire</i>		
Professor Boris Kabanoff Queensland University of Technology	Prior roles include; Director of research and development, faculty of business and Australian Centre for Business Research at QUT.	Questionnaire refinement and terminology
Associate Professor Len Coote University of Queensland	Head of the Marketing cluster of academics within the UQ Business School. Serves a vice-chair for ACSPRI and runs the LISERAL, SEM course at ACSPRI.	Model validity queries
Dr Gary Mortimer Queensland University of Technology	Familiar with both International Business and marketing research, including survey development.	Questionnaire refinement

Appendix 4. Recruitment Email for qualitative interviews

APPLICATION FOR REVIEW OF LOW RISK RESEARCH INVOLVING HUMAN PARTICIPANTS

RECRUITMENT EMAIL

Subject Title:

*Participate in a PhD research study looking into **how firms can improve their international market performance!***

Dear (INSERT NAME)

My name is Charmaine Glavas from the School of Advertising, Marketing, and Public Relations at Queensland University of Technology. I am currently completing my PhD on firm resource capabilities in technology mediated environments, and am looking for respondents to help me complete my PhD research.

I am looking for people like yourself to answer some questions about the different types of resources and capabilities your firm uses to leverage your international market performance. This is important given that the firm's success in international markets relies heavily on the firm's ability to recognise and deploy resource capabilities.

This would involve completing a questionnaire (10-15 minutes of your time). I have attached a document providing more information about this PhD research. If you would like to be part of this research, please click on the link below to fill in the online questionnaire. Should you require more information, please do not hesitate to contact me to request further information. ***Please note that this study has been approved by the QUT Human Research Ethics Committee.*** The ethics approval number is: 1200000678.

Link to the online questionnaire: <http://survey.qut.edu.au/f/175704/116d/>

Your contribution to this PhD research will be greatly appreciated. Thank you for your consideration of this request.

Warm regards,
Charmaine Glavas
PhD Candidate

*Advertising, Marketing and Public Relations
QUT Business School
Queensland University of Technology
2 George Street, Brisbane QLD 4001
Phone: 3138 8074
E- mail: charmaine.glavas@qut.edu.au*



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Appendix 5. Profile of respondent firm's international market behaviour

*Profile	Parameters	Number of respondents	Percentage (%)	
Firms year of establishment	1951- 1980	1	0.48%	
	1981- 2000	158	75.96%	
	2001- 2006	36	17.31%	
	2007- 2012	13	6.25%	
	Missing	0	0	
	TOTAL	<i>n=208</i>	100%	
Annual turnover	\$20,000 or below	4	1.92%	
	\$20,001- \$50,000	6	2.88%	
	\$50,001- \$100,000	13	6.25%	
	\$100,001- \$ 150,000	7	3.37%	
	\$150,001- \$200,000	7	3.37%	
	\$200,001- \$300,000	15	7.21%	
	\$300,001- \$400,000	13	6.25%	
	\$400,001- \$500,000	15	7.21%	
	\$500,001- 1 m	25	12.02%	
	Above \$1 m - \$2 m	23	11.06%	
	Above \$2 m - \$3 m	28	13.46%	
	Above \$3 m - \$4 m	17	8.17%	
	Above \$4 m - \$5 m	8	3.85%	
	Above \$5 m - \$10 m	10	4.81%	
	Above \$10 m - \$15 m	10	4.81%	
	Above \$20 m - \$25 m	1	0.48%	
	Above \$25 m - \$30 m	3	1.44%	
	Above \$30 m - \$35 m	1	0.48%	
	Above \$35 m - \$40 m	1	0.48%	
	Above \$50 m	1	0.48%	
Missing	0	0		
TOTAL	<i>n=208</i>	100%		
International percentage of annual revenue (%)	< 5%	1	0.48%	
	1- 5 %	9	4.33%	
	6- 15%	23	11.06%	
	16-49%	102	49.04%	
	50- 100%	73	35.10%	
	Missing	0	0	
TOTAL	<i>n=208</i>	100%		
Number of international export countries	1 market	4	1.92%	
	2 market	11	5.29%	
	3 countries	29	13.94%	
	4 countries	33	15.87%	
	5 countries	25	12.02%	
	6 countries	26	12.50%	
	7 countries	8	3.85%	
	8 countries	8	3.85%	
	9 countries	1	0.48%	
	10 countries	4	1.92%	
	More than 10 countries	59	28.37%	
	Missing	0	0	
TOTAL	<i>n=208</i>	100%		
First international country Export countries beyond the firm's top ten main international markets are not included	United Kingdom	41	19.71%	
	United States	19	9.13%	
	New Zealand	32	15.38%	
	United Arab Emirates	1	0.48%	
	Singapore	14	6.73%	
	China	32	15.38%	
	Japan	18	8.65%	
	Taiwan	9	4.33%	
	Indonesia	2	0.96%	
	Thailand	3	1.44%	
	Other	37	17.79%	
	Missing	0	-	
	TOTAL	<i>n=208</i>	100%	
	Main international export countries	United Kingdom	122	17.50%
		United States	103	14.78%
New Zealand		104	14.92%	
United Arab Emirates		81	11.62%	
Singapore		77	11.05%	
China		76	10.90%	
Japan		51	7.32%	
Taiwan		35	5.02%	
Indonesia		26	3.73%	
Thailand		22	3.16%	
Missing		0	0	
TOTAL		<i>697/ from 208</i>	-	

Note. *n* = 208 firms (total firms surveyed) and *m* = Million

Appendix 6. Telephone script for qualitative interviews

TELEPHONE SCRIPT

Hello (INSERT NAME)

My name is Charmaine Glavas from the School of Advertising, Marketing, and Public Relations at Queensland University of Technology.

I am currently completing my PhD on firm resource capabilities in Internet environments, and am looking for respondents to help me complete my PhD research.

I am looking for people like you to answer some questions about the different types of resources and capabilities your firm uses to achieve successful international market performance. This would involve completing a questionnaire (10-15 minutes of your time). Would you be interested in completing a 10-15 minute questionnaire to assist me in my PhD research? If so, can I please Email you the link to the online survey? I will also send you further information about this PhD research including an ethics consent form and information flyer.

Please be aware that answers to all the questions are required. You can withdraw anytime during the questionnaire, EXCEPT after the questionnaire has been submitted. You will no longer be able to withdraw after this time.

Also, so you are aware, the research has been approved by the QUT Human Research Ethics Committee. The ethics approval number is 1200000678.

Thank you very much for your time. It is greatly appreciated.

Have a lovely day.

Appendix 7. Descriptive statistics- Skewness and Kurtosis

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
IEOQ6	208	1	7	1.83	1.227	1.903	.169	3.859	.336
IEOQ7	208	1	7	2.08	1.111	1.693	.169	3.789	.336
IEOQ8	208	1	7	2.40	1.337	1.186	.169	1.393	.336
IEOQ9	208	1	7	2.33	1.341	1.172	.169	1.133	.336
IEOQ10	208	1	7	2.24	1.340	1.509	.169	2.537	.336
IEOQ11	208	1	7	2.21	1.172	1.265	.169	2.328	.336
IEOQ12	208	1	7	3.51	1.958	.287	.169	-1.129	.336
IEOQ13	208	1	7	2.22	1.368	1.444	.169	2.179	.336
IEOQ14	208	1	7	1.89	1.294	1.870	.169	3.700	.336
TRIVQ15	208	1	7	1.86	1.346	1.866	.169	3.236	.336
TRIVQ16	208	1	7	2.18	1.378	1.222	.169	.860	.336
TRIVQ17	208	1	7	2.04	1.177	1.514	.169	2.477	.336
TRIVQ18	208	1	6	2.07	1.133	1.204	.169	1.292	.336
TRIVQ19	208	1	7	2.12	1.405	1.284	.169	1.084	.336
IIMCQ25	208	1	7	1.80	1.254	1.887	.169	3.750	.336
IIMC26	208	1	7	1.91	1.119	1.706	.169	3.978	.336
IIMC27	208	1	7	2.13	1.404	1.745	.169	3.096	.336
IIMC28	208	1	7	2.42	1.583	1.155	.169	.592	.336
IIMC29	208	1	7	2.48	1.668	1.125	.169	.402	.336
IVNCQ30	208	1	7	1.74	1.270	2.370	.169	6.007	.336
IVNC31	208	1	7	1.91	1.172	2.095	.169	5.512	.336
IVNCQ32	208	1	7	2.07	1.167	1.866	.169	4.589	.336
IVNCQ35	208	1	7	2.35	1.299	1.111	.169	1.309	.336
IEORQ36	208	1	7	1.81	1.344	1.867	.169	2.911	.336
IEORQ37	208	1	7	2.12	1.447	1.478	.169	1.972	.336
IEORQ38	208	1	7	2.54	1.943	1.112	.169	-.051	.336
IEORQ39	208	1	7	2.25	1.517	1.354	.169	1.316	.336
IEORQ40	208	1	7	1.85	1.088	1.787	.169	4.241	.336
IMPQ41	208	1	7	2.45	1.322	1.062	.169	1.168	.336
IMPQ42	208	1	7	2.52	1.270	1.092	.169	1.378	.336
IMPQ43	208	1	7	3.18	1.265	.230	.169	-.085	.336
IMPQ44	208	1	7	2.78	1.322	.845	.169	.621	.336
IMPQ45	208	1	7	2.67	1.301	.823	.169	.766	.336
IMPQ46	208	1	7	4.70	1.493	-.252	.169	-.591	.336
Valid N (listwise)	208								

Appendix 8. Mahalanobis Distance (D^2) test

Variable	Case no.	Mahalanobis Distance (D^2)
International entrepreneurial orientation	1	36.16
	32	30.40
	91	32.70
	132	31.26
	140	27.28
	152	27.33
	185	28.16
Technology-related international vision	1	40.80
	123	47.05
	126	25.60
	129	22.59
	140	23.31
Internet, international marketing capabilities	27	35.78
	121	50.26
	147	32.15
International virtual network capabilities	128	34.15
	129	24.98
	147	21.45
International entrepreneurial opportunity recognition	132	33.49
	136	37.00
	156	29.67
International market performance	53	20.38
	122	18.79
	126	39.92
	137	28.96

Appendix 9. Assessment of the reliability and validity of the structural model - complete

	CR	AVE	MSV	ASV	IVNC	IEO	TRIV	IMP	IEOR	IIMC
IVNC	0.926	0.760	0.420	0.317	0.872					
IEO	0.915	0.548	0.672	0.435	0.515	0.740				
TRIV	0.856	0.547	0.651	0.526	0.648	0.696	0.739			
IMP	0.932	0.735	0.560	0.424	0.448	0.676	0.682	0.857		
IEOR	0.921	0.702	0.672	0.530	0.552	0.820	0.780	0.748	0.838	
IIMC	0.914	0.682	0.651	0.457	0.628	0.544	0.807	0.661	0.710	0.826

Note. *IVNC* = international virtual networking capabilities, *IEO* = international entrepreneurial orientation, *TRIV* = technology-related international vision, *IMP* = international market performance, *IEOR* = international entrepreneurial opportunity recognition, *IIMC* = Internet, international marketing capabilities.

Appendix 10. Standardised indirect effects for mediation

Standardized Indirect Effects - Lower Bounds (BC) (Group number 1 - Default model)

	IEO	TRIV	IEOR	IIMC
TRIV	.000	.000	.000	.000
IEOR	.177	.000	.000	.000
IIMC	.301	.000	.000	.000
IVNC	.227	.051	.000	.000
IMP	.348	.293	.000	.000

Standardized Indirect Effects - Upper Bounds (BC) (Group number 1 - Default model)

	IEO	TRIV	IEOR	IIMC
TRIV	.000	.000	.000	.000
IEOR	.421	.000	.000	.000
IIMC	.554	.000	.000	.000
IVNC	.479	.413	.000	.000
IMP	.556	.548	.000	.000

Standardized Indirect Effects - Two Tailed Significance (BC) (Group number 1 - Default model) (p-value)

	IEO	TRIV	IEOR	IIMC
TRIV	...	...	...	...
IEOR	.001	...	...	...
IIMC	.001	...	...	...
IVNC	.001	.010	...	...
IMP	.001	.002	...	...

Standardized Indirect Effects (Group number 1 - Default model) (β)

	IEO	TRIV	IEOR	IIMC
TRIV	.000	.000	.000	.000
IEOR	.284	.000	.000	.000
IIMC	.430	.000	.000	.000
IVNC	.352	.235	.000	.000
IMP	.463	.432	.000	.000

Appendix 11. Standardised direct effects for mediation

Standardized Direct Effects - Lower Bounds (BC) (Group number 1 - Default model)

	IEO	TRIV	IEOR	IIMC
TRIV	.455	.000	.000	.000
IEOR	.222	.310	.000	.000
IIMC	.000	.583	.000	.000
IVNC	.000	.076	.000	.061
IMP	.000	.000	.308	.081

Standardized Direct Effects - Upper Bounds (BC) (Group number 1 - Default model)

	IEO	TRIV	IEOR	IIMC
TRIV	.723	.000	.000	.000
IEOR	.564	.617	.000	.000
IIMC	.000	.802	.000	.000
IVNC	.000	.603	.000	.587
IMP	.000	.000	.657	.486

Standardized Direct Effects - Two Tailed Significance (BC) (Group number 1 - Default model)

	IEO	TRIV	IEOR	IIMC
TRIV	.001	...	...	...
IEOR	.001	.002	...	...
IIMC	...	.001	...	...
IVNC	...	.012	...	.011
IMP	...	...	.001	.002

Standardized Direct Effects (Group number 1 - Default model) (β)

	IEO	TRIV	IEOR	IIMC
TRIV	.608	.000	.000	.000
IEOR	.402	.466	.000	.000
IIMC	.000	.707	.000	.000
IVNC	.000	.343	.000	.332
IMP	.000	.000	.499	.282

Appendix 12. Comparison of standardised regression weights: Correlated Marker Technique

Standardised Regression Weights: (with marker variable)

Standardised Regression Weights: (without marker variable)

			Estimate
TRIVQ16	<---	TRIV	0.77
TRIVQ15	<---	TRIV	0.663
IMPQ45	<---	IMP	0.793
IMPQ44	<---	IMP	0.751
IMPQ43	<---	IMP	0.692
IMPQ42	<---	IMP	0.838
IMPQ41	<---	IMP	0.865
IEORQ40	<---	IEOR	0.644
IEORQ39	<---	IEOR	0.737
IEORQ38	<---	IEOR	0.651
IEORQ37	<---	IEOR	0.811
IEORQ36	<---	IEOR	0.822
IVNCQ32	<---	IVNC	0.877
IVNCQ31	<---	IVNC	0.934
IVNCQ30	<---	IVNC	0.893
IIMCQ28	<---	IIMC	0.693
IIMCQ27	<---	IIMC	0.736
IIMCQ26	<---	IIMC	0.793
IIMCQ25	<---	IIMC	0.839
IEOQ11	<---	IEO	0.624
IEOQ9	<---	IEO	0.888
IEOQ7	<---	IEO	0.844
IEOQ8	<---	IEO	0.84
TRIVQ17	<---	TRIV	0.607
PRODQ47a	<---	Marker_PC	0.484
PRODQ47b	<---	Marker_PC	-0.638
PRODQ47c	<---	Marker_PC	-0.77
PRODQ47d	<---	Marker_PC	-0.8
PRODQ47e	<---	Marker_PC	-0.73
PRODQ47f	<---	Marker_PC	-0.786
IEOQ11	<---	Marker_PC	0.155
IEOQ9	<---	Marker_PC	0.188
IEOQ8	<---	Marker_PC	0.184
IEOQ7	<---	Marker_PC	0.153
TRIVQ17	<---	Marker_PC	0.382
TRIVQ16	<---	Marker_PC	0.409
TRIVQ15	<---	Marker_PC	0.492
IIMCQ28	<---	Marker_PC	0.39

			Estimate	Delta
TRIVQ16	<---	TRIV	0.863	0.093
TRIVQ15	<---	TRIV	0.803	0.14
IMPQ45	<---	IMP	0.864	0.071
IMPQ44	<---	IMP	0.847	0.096
IMPQ43	<---	IMP	0.71	0.018
IMPQ42	<---	IMP	0.919	0.081
IMPQ41	<---	IMP	0.93	0.065
IEORQ40	<---	IEOR	0.725	0.081
IEORQ39	<---	IEOR	0.85	0.113
IEORQ38	<---	IEOR	0.819	0.168
IEORQ37	<---	IEOR	0.904	0.093
IEORQ36	<---	IEOR	0.881	0.059
IVNCQ32	<---	IVNC	0.88	0.003
IVNCQ31	<---	IVNC	0.956	0.022
IVNCQ30	<---	IVNC	0.937	0.044
IIMCQ28	<---	IIMC	0.783	0.09
IIMCQ27	<---	IIMC	0.827	0.091
IIMCQ26	<---	IIMC	0.843	0.05
IIMCQ25	<---	IIMC	0.911	0.072
IEOQ11	<---	IEO	0.638	0.014
IEOQ9	<---	IEO	0.907	0.019
IEOQ7	<---	IEO	0.855	0.011
IEOQ8	<---	IEO	0.859	0.019
TRIVQ17	<---	TRIV	0.696	0.089

**Standardised Regression Weights: (with marker variable)
continued**

			Estimate
IIMCQ27	<---	Marker_PC	0.397
IIMCQ26	<---	Marker_PC	0.315
IIMCQ25	<---	Marker_PC	0.372
IVNCQ32	<---	Marker_PC	0.127
IVNCQ31	<---	Marker_PC	0.205
IVNCQ30	<---	Marker_PC	0.299
IEORQ40	<---	Marker_PC	0.366
IEORQ39	<---	Marker_PC	0.44
IEORQ38	<---	Marker_PC	0.55
IEORQ37	<---	Marker_PC	0.412
IEORQ36	<---	Marker_PC	0.35
IMPQ45	<---	Marker_PC	0.36
IMPQ44	<---	Marker_PC	0.417
IMPQ43	<---	Marker_PC	0.2
IMPQ42	<---	Marker_PC	0.389
IMPQ41	<---	Marker_PC	0.354

Appendix 13. Implied (for all variables) Covariances (Group number 1 - Default model)

	IEO	TRIV	IIMC	IEOR	IVNC	IMP	IVNCQ30	IVNCQ31	IVNCQ32	IIMCQ25	IIMCQ26	IIMCQ27	IIMCQ28	IEORQ36	IEORQ37	IEORQ38	IEORQ39	IEORQ40	IMPQ41	IMPQ42	IMPQ43	IMPQ44	IMPQ45	TRIVQ15	TRIVQ16	TRIVQ17	IEOQ7	IEOQ8	IEOQ9	IEOQ11				
IEO	0.55																																	
TRIV	0.41	0.65																																
IIMC	0.49		1.51																															
IEOR	0.44	0.53		0.62																														
IVNC	0.33	0.53	0.77	0.43																														
IMP	0.48	0.62	0.66		1.05																													
IVNCQ30	0.39	0.62	0.90	0.50	1.21	0.62	1.60																											
IVNCQ31	0.36	0.58		0.47	1.14	0.58	1.32	1.36																										
IVNCQ32	0.33	0.53	0.77	0.43			1.21	1.14	1.35																									
IIMCQ25	0.46	0.73	1.40	0.59	0.72	0.81	0.83	0.79	0.72	1.56																								
IIMCQ26	0.38	0.60	1.15		0.59	0.67	0.69		0.59	1.07	1.24																							
IIMCQ27	0.46	0.74	1.42	0.60	0.73	0.83	0.85	0.80	0.73	1.32	1.09	1.96																						
IIMCQ28	0.49	0.79	1.51		0.77	0.90	0.90		0.77	1.40	1.15	1.42	2.49																					
IEORQ36	0.67	0.80	0.96	0.93	0.65	0.99	0.75	0.71	0.65	0.89	0.73	0.90	0.96	1.79																				
IEORQ37	0.73	0.88	1.05	1.02	0.71	1.09	0.83	0.78	0.71	0.98	0.80	0.99	1.05	1.54	2.08																			
IEORQ38	0.89	1.06	1.28	1.24		1.32	1.00	0.94		1.19	0.98	1.21	1.28	1.87	2.05	3.75																		
IEORQ39	0.72	0.86			0.87	0.9	0.8	0.9	0.87	0.3	2	2	3	1	7	8																		
IEORQ40	0.44	0.53			0.70	1.07	0.81	0.76	0.70	0.96	0.79	0.98		1.51	1.66	2.02	2.29																	
IMPQ41	0.50	0.65	1.04	1.01	5	7	7	9	5	7	6	2	1.04	7	7	4	1																	
IMPQ42	0.48	0.53		0.62	0.43	0.66	0.50	0.47	0.43	0.59		0.60		0.93	1.02	1.24		1.17																
IMPQ43	0.53	0.68	0.96	0.72	0.59	1.36	0.68	0.64	0.59	0.89	0.73	0.96		1.19	1.45	1.17	0.72	1.73																
IMPQ44	0.50	0.91		0.56		0.65	0.61	0.56	0.85	0.70	0.86	0.91	1.03	1.13	1.38	1.12			1.42	1.59														
IMPQ45	0.38	0.49	0.70		0.43	0.99		0.47	0.43	0.65	0.53	0.66	0.70	0.79	0.87	1.06	0.86		1.09	1.03	1.58													
TRIVQ15	0.48	0.62	0.87	0.66	0.53	1.24	0.62	0.58	0.53	0.81	0.67	0.82	0.87	0.99	1.09	1.32	1.07	0.66	1.36	1.29	0.99	1.73												
TRIVQ16	0.41	0.65		0.53	0.53	0.62	0.62	0.58	0.53	0.73	0.60	0.74		0.80	0.88	1.06	0.86	0.53	0.68	0.49	0.62	0.87	0.96	0.91	1.27									
TRIVQ17	0.70	0.52	0.62	0.56	0.42	0.61	0.49	0.46	0.42	0.58	0.48	0.59	0.62	0.93	1.13	0.91	0.56	0.67	0.63	0.49	0.61	0.61	0.69	0.69	0.76	0.52	1.22							
IEOQ7	0.85	0.63	0.75	0.68	0.51	0.74	0.59	0.56	0.51	0.70	0.58	0.71	0.75	1.02	1.12	1.36	1.10	0.68	0.81	0.77	0.59	0.73	0.74	0.83	0.92	0.63	1.08	1.77						
IEOQ8	0.90	0.67	0.80	0.72	0.54	0.78	0.63	0.59	0.54	0.74	0.61	0.76	0.80	1.08	1.19	1.45	1.17	0.72	0.86	0.81	0.62	0.78	0.78	0.98	0.67	1.15	1.38	1.78						
IEOQ9	0.55	0.41	0.49	0.44	0.33	0.48		0.36	0.33	0.46		0.46	0.49	0.67	0.73	0.89	0.72	0.44	0.53	0.50	0.38	0.48	0.48	0.54	0.60	0.41	0.70	0.85	0.90	1.36				
IEOQ11	9	4	7	6	7	5	0.39	7	7	1	0.38	9	7	1	7	5	5	6	1	4	7	3	5	8	4	4	9	5	8	6				

Appendix 14. Implied (for all variables) Correlations (Group number 1 - Default model)

	IEO	TRIV	IIMC	IEOR	IVNC	IMP	IVNCQ30	IVNCQ31	IVNCQ32	IIMCQ25	IIMCQ26	IIMCQ27	IIMCQ28	IEORQ36	IEORQ37	IEORQ38	IEORQ39	IEORQ40	IMPQ41	IMPQ42	IMPQ43	IMPQ44	IMPQ45	TRIVQ15	TRIVQ16	TRIVQ17	IEOQ7	IEOQ8	IEOQ9	IEOQ11
IEO	1																													
TRIV	0.6 82	1																												
IIMC	0.5 4	0.7 92	1																											
IEOR	0.7 57	0.8 34	0.6 6	1																										
IVNC	0.4 39	0.6 44	0.6 18	0.5 37	1																									
IMP	0.5 8	0.6 89	0.6 41	0.7 52	0.4 72	1																								
IVNCQ30	0.4 12	0.6 04	0.5 79	0.5 04	0.9 37	0.4 42	1																							
IVNCQ31	0.4 2	0.6 16	0.5 91	0.5 14	0.9 56	0.4 51	0.8 95	1																						
IVNCQ32	0.3 87	0.5 67	0.5 44	0.4 73	0.8 8	0.4 15	0.8 25	0.8 41	1																					
IIMCQ25	0.4 93	0.7 23	0.9 13	0.6 03	0.5 65	0.5 85	0.5 29	0.5 4	0.4 97	1																				
IIMCQ26	0.4 55	0.6 67	0.8 43	0.5 56	0.5 21	0.5 4	0.4 88	0.4 98	0.4 59	0.7 7	1																			
IIMCQ27	0.4 47	0.6 56	0.8 29	0.5 47	0.5 12	0.5 31	0.4 8	0.4 9	0.4 51	0.7 57	0.6 98	1																		
IIMCQ28	0.4 21	0.6 17	0.7 79	0.5 14	0.4 81	0.4 99	0.4 51	0.4 6	0.4 24	0.7 11	0.6 56	0.6 45	1																	
IEORQ36	0.6 69	0.7 37	0.5 84	0.8 83	0.4 75	0.6 65	0.4 45	0.4 54	0.4 18	0.5 33	0.4 92	0.4 83	0.4 54	1																
IEORQ37	0.6 83	0.7 52	0.5 96	0.9 02	0.4 85	0.6 79	0.4 54	0.4 63	0.4 27	0.5 44	0.5 02	0.4 94	0.4 64	0.7 97	1															
IEORQ38	0.6 17	0.6 8	0.5 38	0.8 15	0.4 38	0.4 13	0.4 1	0.4 19	0.4 86	0.4 92	0.4 54	0.4 46	0.4 19	0.7 2	0.7 35	1														
IEORQ39	0.6 41	0.7 06	0.5 59	0.8 46	0.4 55	0.6 37	0.4 26	0.4 35	0.4 0.4	0.4 1	0.4 71	0.4 63	0.4 35	0.7 48	0.7 63	0.6 9	1													
IEORQ40	0.5 5	0.6 06	0.4 8	0.7 26	0.3 9	0.5 46	0.3 66	0.3 73	0.3 44	0.3 38	0.4 04	0.3 97	0.3 73	0.6 42	0.6 55	0.5 92	0.6 15	1												
IMPQ41	0.5 39	0.6 41	0.5 96	0.7 0.7	0.4 39	0.9 3	0.4 11	0.4 19	0.3 86	0.5 44	0.5 02	0.4 94	0.4 64	0.6 18	0.6 31	0.5 71	0.5 92	0.5 08	1											
IMPQ42	0.5 33	0.6 33	0.5 89	0.6 92	0.4 34	0.9 19	0.4 06	0.4 14	0.3 82	0.5 38	0.4 96	0.4 88	0.4 59	0.6 11	0.6 24	0.5 64	0.5 85	0.5 02	0.8 55	1										
IMPQ43	0.4 11	0.4 88	0.4 54	0.5 33	0.3 34	0.7 09	0.3 13	0.3 19	0.3 94	0.3 15	0.3 83	0.3 76	0.3 53	0.4 71	0.4 81	0.4 35	0.4 51	0.4 87	0.3 59	0.6 52	0.6 1									
IMPQ44	0.4 91	0.5 83	0.5 42	0.6 37	0.3 99	0.8 47	0.3 74	0.3 81	0.3 51	0.3 95	0.3 57	0.3 49	0.3 22	0.4 63	0.5 75	0.5 19	0.5 39	0.5 63	0.4 87	0.7 78	0.7 0.6	1								
IMPQ45	0.5 01	0.5 95	0.5 53	0.6 49	0.4 07	0.8 63	0.3 81	0.3 89	0.3 58	0.5 05	0.4 66	0.4 58	0.4 31	0.5 74	0.5 86	0.5 29	0.5 5	0.4 72	0.8 03	0.7 94	0.6 12	0.7 31	1							
TRIVQ15	0.5 46	0.8 01	0.6 34	0.6 68	0.5 16	0.5 52	0.4 84	0.4 93	0.4 54	0.5 79	0.5 34	0.5 26	0.4 94	0.5 9	0.5 02	0.5 44	0.5 65	0.4 85	0.5 13	0.5 07	0.3 91	0.4 67	0.4 76	0.6 1						
TRIVQ16	0.5 88	0.8 62	0.6 83	0.7 19	0.5 56	0.5 94	0.5 2	0.5 31	0.5 89	0.5 24	0.5 75	0.5 66	0.5 32	0.6 35	0.6 48	0.5 86	0.5 08	0.5 22	0.5 52	0.5 46	0.5 21	0.5 03	0.6 13	0.6 9	1					
TRIVQ17	0.4 71	0.6 91	0.5 47	0.5 76	0.4 45	0.4 76	0.4 17	0.4 26	0.3 92	0.3 0.5	0.3 61	0.3 54	0.3 26	0.3 09	0.3 2	0.3 7	0.3 88	0.3 19	0.3 43	0.3 38	0.3 37	0.3 03	0.4 11	0.4 54	0.5 96	0.5 1				
IEOQ7	0.8 55	0.5 83	0.4 62	0.6 48	0.3 76	0.4 96	0.3 52	0.3 59	0.3 31	0.3 22	0.3 89	0.3 83	0.3 6	0.5 72	0.5 84	0.5 28	0.5 48	0.4 7	0.4 61	0.4 56	0.3 51	0.4 2	0.4 28	0.4 67	0.4 03	0.4 03	1			
IEOQ8	0.8 57	0.5 85	0.4 63	0.6 49	0.3 77	0.4 97	0.3 53	0.3 6	0.3 32	0.3 23	0.3 9	0.3 84	0.3 61	0.5 74	0.5 86	0.5 29	0.5 49	0.4 71	0.4 63	0.4 57	0.3 52	0.4 21	0.4 29	0.4 68	0.4 04	0.4 04	0.7 33	1		
IEOQ9	0.9 08	0.6 19	0.4 9	0.6 87	0.3 99	0.5 27	0.3 74	0.3 81	0.3 51	0.3 48	0.3 13	0.3 06	0.3 82	0.6 07	0.6 2	0.5 6	0.5 82	0.4 99	0.4 9	0.4 84	0.3 73	0.4 46	0.4 54	0.4 96	0.4 34	0.4 28	0.4 76	0.7 78	1	
IEOQ11	0.6 4	0.4 36	0.3 46	0.4 85	0.2 81	0.3 71	0.2 63	0.2 69	0.2 48	0.3 16	0.2 91	0.2 86	0.2 69	0.4 28	0.4 37	0.3 95	0.4 1	0.3 52	0.3 45	0.3 41	0.2 63	0.3 14	0.3 2	0.3 49	0.3 76	0.3 02	0.5 47	0.5 49	0.5 81	1

Appendix 15. Implied Covariances (Group number 1 - Default model)

	IVNCQ30	IVNCQ31	IVNCQ32	IIMCQ25	IIMCQ26	IIMCQ27	IIMCQ28	IEORQ36	IEORQ37	IEORQ38	IEORQ39	IEORQ40	IMFQ41	IMFQ42	IMFQ43	IMFQ44	IMFQ45	TRIVQ15	TRIVQ16	TRIVQ17	IEOQ7	IEOQ8	IEOQ9	IEOQ11	
IVNCQ30	1.606																								
IVNCQ31	1.327	1.368																							
IVNCQ32	1.216	1.145	1.355																						
IIMCQ25	0.839	0.79	0.724	1.565																					
IIMCQ26	0.691	0.65	0.596	1.075	1.246																				
IIMCQ27	0.852	0.802	0.736	1.326	1.092	1.963																			
IIMCQ28	0.903	0.85	0.779	1.405	1.157	1.427	2.493																		
IEORQ36	0.756	0.711	0.652	0.894	0.736	0.908	0.962	1.797																	
IEORQ37	0.831	0.782	0.717	0.982	0.809	0.998	1.057	1.541	2.083																
IEORQ38	1.008	0.949	0.87	1.193	0.982	1.212	1.283	1.871	2.057	3.758															
IEORQ39	0.817	0.769	0.705	0.967	0.796	0.982	1.04	1.517	1.667	2.024	2.291														
IEORQ40	0.503	0.473	0.434	0.595	0.49	0.604	0.64	0.933	1.026	1.246	1.01	1.178													
IMFQ41	0.685	0.645	0.591	0.896	0.737	0.91	0.964	1.09	1.199	1.455	1.179	0.726	1.73												
IMFQ42	0.651	0.613	0.562	0.851	0.701	0.865	0.916	1.036	1.139	1.383	1.121	0.69	1.42	1.59											
IMFQ43	0.5	0.471	0.431	0.654	0.538	0.664	0.703	0.796	0.875	1.062	0.861	0.53	1.09	1.03	1.58										
IMFQ44	0.624	0.587	0.539	0.816	0.672	0.829	0.878	0.993	1.092	1.326	1.074	0.661	1.36	1.29	0.99	1.73									
IMFQ45	0.626	0.589	0.54	0.818	0.674	0.831	0.88	0.996	1.095	1.329	1.077	0.663	1.36	1.3	0.99	1.24	1.67								
TRIVQ15	0.823	0.774	0.71	0.973	0.801	0.988	1.047	1.062	1.167	1.417	1.149	0.707	0.90	0.86	0.66	0.82	0.82	1.803							
TRIVQ16	0.907	0.853	0.783	1.072	0.883	1.089	1.154	1.17	1.286	1.562	1.266	0.779	0.99	0.94	0.72	0.91	0.91	1.803	1.274	1.89					
TRIVQ17	0.621	0.584	0.536	0.734	0.605	0.746	0.79	0.801	0.881	1.069	0.867	0.533	0.67	0.63	0.49	0.61	0.61				0.872	0.962	1.378		
IEOQ7	0.495	0.466	0.427	0.585	0.482	0.594	0.629	0.85	0.934	1.135	0.919	0.566	0.67	0.63	0.49	0.61	0.61				0.695	0.766	0.525	1.2	
IEOQ8	0.596	0.561	0.515	0.705	0.581	0.717	0.759	1.025	1.127	1.368	1.109	0.682	0.81	0.77	0.59	0.73	0.74				1.0	1.7			
IEOQ9	0.633	0.596	0.547	0.749	0.617	0.761	0.806	1.089	1.197	1.453	1.178	0.725	0.86	0.81	0.62	0.78	0.78				0.838	0.924	0.633	1.1	1.3
IEOQ11	0.39	0.367	0.337	0.461	0.38	0.469	0.497	0.671	0.737	0.895	0.725	0.446	0.53	0.50	0.38	0.48	0.48				0.7	0.8	0.9	1.36	6
													1	4	7	3	5	0.548	0.604	0.414	0.09	0.55	0.08		

Appendix 16. Implied Correlations (Group number 1 - Default model)

	IVNCQ30	IVNCQ31	IVNCQ32	IIMCQ25	IIMCQ26	IIMCQ27	IIMCQ28	IEORQ36	IEORQ37	IEORQ38	IEORQ39	IEORQ40	IMPQ41	IMPQ42	IMPQ43	IMPQ44	IMPQ45	TRIVQ15	TRIVQ16	TRIVQ17	IEOQ7	IEOQ8	IEOQ9	IEOQ11	
IVNCQ30	1																								
IVNCQ31	0.895	1																							
IVNCQ32	0.825	0.841	1																						
IIMCQ25	0.529	0.54	0.497	1																					
IIMCQ26	0.488	0.498	0.459	0.77	1																				
IIMCQ27	0.48	0.49	0.451	0.757	0.698	1																			
IIMCQ28	0.451	0.46	0.424	0.711	0.656	0.645	1																		
IEORQ36	0.445	0.454	0.418	0.533	0.492	0.483	0.454	1																	
IEORQ37	0.454	0.463	0.427	0.544	0.502	0.494	0.464	0.797	1																
IEORQ38	0.41	0.419	0.386	0.492	0.454	0.446	0.419	0.72	0.735	1															
IEORQ39	0.426	0.435	0.4	0.51	0.471	0.463	0.435	0.748	0.763	0.69	1														
IEORQ40	0.366	0.373	0.344	0.438	0.404	0.397	0.373	0.642	0.655	0.592	0.615	1													
IMPQ41	0.411	0.419	0.386	0.544	0.502	0.494	0.464	0.618	0.631	0.571	0.592	0.508	1												
IMPQ42	0.406	0.414	0.382	0.538	0.496	0.488	0.459	0.611	0.624	0.564	0.585	0.502	0.85	1											
IMPQ43	0.313	0.319	0.294	0.415	0.383	0.376	0.353	0.471	0.481	0.435	0.451	0.387	0.65	0.65	1										
IMPQ44	0.374	0.381	0.351	0.495	0.457	0.449	0.422	0.563	0.575	0.519	0.539	0.463	0.78	0.77	0.6	1									
IMPQ45	0.381	0.389	0.358	0.505	0.466	0.458	0.431	0.574	0.586	0.529	0.55	0.472	0.80	0.79	0.61	0.73	1								
TRIVQ15	0.484	0.493	0.454	0.579	0.534	0.526	0.494	0.59	0.602	0.544	0.565	0.485	0.51	0.50	0.39	0.46	0.47	1							
TRIVQ16	0.52	0.531	0.489	0.624	0.575	0.566	0.532	0.635	0.648	0.586	0.608	0.522	0.55	0.54	0.42	0.50	0.51	0.69	1						
TRIVQ17	0.417	0.426	0.392	0.5	0.461	0.454	0.426	0.509	0.52	0.47	0.488	0.419	0.44	0.43	0.33	0.40	0.41	0.55	0.4	0.596	1				
IEOQ7	0.352	0.359	0.331	0.422	0.389	0.383	0.36	0.572	0.584	0.528	0.548	0.47	0.46	0.45	0.35	0.42	0.42	0.46	0.46	0.40	0.3	0.7	1		
IEOQ8	0.353	0.36	0.332	0.423	0.39	0.384	0.361	0.574	0.586	0.529	0.549	0.471	0.46	0.45	0.35	0.42	0.42	0.46	0.46	0.4	0.33	0.4	0.7	0.7	1
IEOQ9	0.374	0.381	0.351	0.448	0.413	0.406	0.382	0.607	0.62	0.56	0.582	0.499	0.49	0.48	0.37	0.44	0.45	0.49	0.49	0.42	0.7	0.7	0.7	0.7	1
IEOQ11	0.263	0.269	0.248	0.316	0.291	0.286	0.269	0.428	0.437	0.395	0.41	0.352	0.34	0.34	0.26	0.31	0.32	0.34	0.30	0.30	0.5	0.5	0.5	0.5	0.5

Appendix 17. Residual Covariances (Group number 1 - Default model)

	IVNCQ30	IVNCQ31	IVNCQ32	IIMCQ25	IIMCQ26	IIMCQ27	IIMCQ28	IEORQ36	IEORQ37	IEORQ38	IEORQ39	IEORQ40	IMPQ41	IMPQ42	IMPQ43	IMPQ44	IMPQ45	TRIVQ15	TRIVQ16	TRIVQ17	IEOQ7	IEOQ8	IEOQ9	IEOQ11	
IVNCQ30	0																								
IVNCQ31	-	0																							
IVNCQ32	0.003	0.01	0																						
IIMCQ25	0.015	0.07	0	0																					
IIMCQ26	0.07	0.019	0.041	0	0.0																				
IIMCQ27	0.075	0.115	0.162	0.41	0																				
IIMCQ28	0.24	0.14	0.11	-	-	0																			
IEORQ36	5	7	5	0.006	0.056	0																			
IEORQ37	0.02	-	-	-	-	-	0																		
IEORQ38	8	0.063	0.098	0.032	0.04	0.046	0																		
IEORQ39	0.17	0.05	0.06	0.0	-	0.2	0.13																		
IEORQ40	7	1	8	16	0.07	0.09	6	0																	
IMPQ41	0.12	-	-	-	-	0.1	0.25	0.01																	
IMPQ42	3	0.06	-0.1	0.06	0.019	0.36	5	9	0																
IMPQ43	0.07	-	-	-	-	0.2	0.44	-	0.06																
IMPQ44	4	0.133	0.15	0.012	0.019	0.69	3	0.093	3	0															
IMPQ45	-	-	-	-	-	0.0	0.27	-	0.01	0.20															
TRIVQ15	0.013	0.21	0.132	0.008	0.02	0.81	6	0.081	6	9	0														
TRIVQ16	0.09	0.02	0.02	-	0.00	0.1	-	0.02	-	0.04															
TRIVQ17	2	3	9	0.039	1	62	0.008	8	0.052	0.062	7	0													
IEOQ7	0.06	-	-	-	-	0.0	0.12	0.07	-	0.03	-	0.01	0.0												
IEOQ8	2	0.101	0.095	0.04	0.028	82	1	1	0.006	7	0.04	2	0.0												
IEOQ9	0.06	-	-	0.0	0.01	0.1	0.20	0.05	0.01	0.09	0.02	-	0.0	0.0											
IEOQ11	6	0.097	0.094	13	5	14	8	7	3	3	1	0.009	49	0.06											
IVNCQ30	0.005	0.147	0.06	0.078	0.127	0.078	0.049	0.098	0.175	0.165	0.141	0.117	0.041	0.06	0.04										
IVNCQ31	0.08	-	-	0.0	0.05	0.0	0.12	0.00	0.00	0.01	-	-	-	-	0.1	0.0									
IVNCQ32	3	0.015	0.008	29	8	28	8	9	1	5	0.044	0.07	0.053	0.042	0.07	0.06									
IIMCQ25	-	-	-	-	-	0.0	0.05	0.01	-	-	-	-	-	-	0.0	0.1	0.0								
IIMCQ26	0.029	0.127	0.112	0.058	0.045	16	6	4	0.042	0.064	0.121	0.007	0.006	0.06	82	61	0.06								
IIMCQ27	0.17	0.03	0.01	0.0	-	0.1	0.16	-	-	-	-	-	0.1	0.0	-	0.0	0.0								
IIMCQ28	5	6	6	37	0.073	79	5	0.054	0.093	0.068	0.119	0.094	0.08	96	0.107	0.04	39	0							
IEORQ36	0.01	-	-	-	-	0.0	0.04	0.05	0.08	0.04	0.03	0.0	0.0	-	0.0	0.1	0.0	0.0							
IEORQ37	6	0.078	0.099	0.136	0.054	11	4	6	2	6	0.05	8	14	0.006	0.253	0.05	0.054	11	0						
IEORQ38	0.04	-	-	0.0	-	0.1	0.00	-	-	-	-	0.0	0.0	-	0.0	-	0.0	0.0	0.0						
IEORQ39	9	0.042	0.01	25	0.033	42	4	0.005	0.141	0.054	0.084	0.05	13	97	0.089	26	0.067	0.04	0.02	0					
IEORQ40	0.09	-	-	-	-	0.1	-	0.10	-	-	-	0.09	0.1	0.0	0.0	0.0	0.0	-	0.0	0.0					
IMPQ41	9	0.016	0.024	0.059	0.114	4	0.043	8	0.03	0.231	0.045	6	32	88	13	69	76	0.063	22	92	0				
IMPQ42	0.08	-	0.00	-	-	0.0	-	0.05	-	-	-	0.04	0.0	0.0	0.0	0.0	0.0	-	-	0.1	0.0				
IMPQ43	9	0.027	4	0.163	0.232	42	0.123	4	0.144	0.29	0.053	7	75	75	42	7	11	0.105	0.03	48	42	0			
IMPQ44	0.16	-	-	-	-	0.0	-	-	-	-	-	0.05	0.0	0.0	0.0	0.1	0.0	-	0.0	0.0	-	0.0			
IMPQ45	9	0.015	0.04	-0.1	0.115	88	0.041	0.06	0.024	0.228	0.023	2	94	67	65	54	82	0.099	78	49	0.024	13	0		
TRIVQ15	0.14	0.06	0.04	-	-	0.1	0.15	0.22	0.12	0.02	0.15	0.0	0.0	0.0	0.0	0.0	0.0	-	0.1	0.0	-	-	0.0		
TRIVQ16	4	4	7	0.006	0.049	14	3	9	4	3	0.06	3	78	66	12	48	65	0.044	37	63	0.019	0.111	43	0	
TRIVQ17																									

Appendix 18. Standardised Residual Covariances (Group number 1 - Default model)

	IVNCQ30	IVNCQ31	IVNCQ32	IIMCQ25	IIMCQ26	IIMCQ27	IIMCQ28	IEORQ36	IEORQ37	IEORQ38	IEORQ39	IEORQ40	IMPQ41	IMPQ42	IMPQ43	IMPQ44	IMPQ45	TRIVQ15	TRIVQ16	TRIVQ17	IEOQ7	IEOQ8	IEOQ9	IEOQ11		
IVNCQ30	0																									
IVNCQ31	-	0																								
IVNCQ32	0.021	0.12	0																							
IIMCQ25	0.113	-	0.60	0																						
IIMCQ26	0.3	0.16	-	0.364	0																					
IIMCQ27	-	-	-	-	0.3																					
IIMCQ28	0.684	1.131	1.626	0.92	0.38	0																				
IEORQ36	1.79	0.92	-	-	-	-																				
IEORQ37	3	1.16	7	0.038	0.42	0																				
IEORQ38	0.18	-	-	-	0.27	-																				
IEORQ39	5	0.449	0.704	0.189	-	0.252	0																			
IEORQ40	1.36	0.57	0.1	-	1.4	0.84																				
IMPQ41	6	0.43	9	18	0.605	4	2	0																		
IMPQ42	0.87	-	-	-	-	0.8	1.46	0.10																		
IMPQ43	8	0.466	0.789	0.42	0.154	65	2	9	0																	
IMPQ44	-	-	-	-	-	-	1.92	-	0.26																	
IMPQ45	0.4	0.781	0.89	0.063	0.117	1.3	2	0.416	3	0																
TRIVQ15	-	-	-	-	0.15	-	1.52	-	0.08	0.84																
TRIVQ16	0.091	1.563	0.999	0.057	3	0.5	1	0.462	4	4	0															
TRIVQ17	0.90	0.24	0.31	-	0.01	1.4	-	0.23	-	-	0.35															
IEOQ7	1	3	1	0.382	1	21	0.066	4	0.396	0.364	3	0														
IEOQ8	0.49	-	-	-	-	0.5	0.76	0.49	-	0.18	-	0.10	0.0													
IEOQ9	6	0.87	0.833	0.307	0.244	74	1	4	0.036	1	0.25	7	41													
IEOQ11	0.54	-	-	0.1	0.13	0.8	1.36	0.40	0.08	0.47	0.13	-	0.3	0.0												
	7	0.868	0.862	0.08	7	29	5	9	5	3	8	0.082	24	4												
	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0												
	0.046	1.368	0.565	0.66	1.215	0.596	0.334	0.755	1.245	0.892	0.97	1.147	0.295	48	24											
	0.67	-	-	0.2	0.51	0.1	0.81	0.06	0.00	0.07	-	-	-	0.7	0.0											
	1	0.132	0.073	0.26	7	98	6	1	6	3	0.281	0.641	0.343	0.285	99	34										
	-	-	-	-	-	0.1	0.36	-	-	-	-	-	-	-	0.6	1.0	0.0									
	0.239	1.127	1.009	0.462	0.408	18	4	0.1	0.28	0.325	0.778	0.068	0.042	0.414	14	99	35									
	1.33	0.29	0.13	0.2	-	1.2	1.00	-	-	-	-	-	0.7	0.7	-	0.0	0.2									
	1	3	7	77	0.621	14	5	0.374	0.594	0.33	0.735	0.832	85	23	0.849	29	92	0								
	0.11	-	-	-	-	0.0	0.25	0.37	0.49	0.21	0.29	0.32	0.1	-	-	0.0	-	0.0								
	6	0.617	0.797	0.968	0.436	71	6	1	8	7	5	1	01	0.041	1.936	38	0.388	7	0							
	0.43	-	-	0.2	-	1.1	0.03	-	-	-	-	0.52	0.1	0.8	-	0.2	-	0.0	0.0							
	8	0.407	0.099	0.15	0.331	35	1	0.039	1.06	0.311	0.612	3	08	59	0.819	23	0.589	3	13	0						
	0.95	-	-	-	-	1.2	-	0.90	-	-	-	1.03	1.1	0.8	0.1	0.6	-	-	0.1	0.9						
	4	0.169	0.256	0.562	1.23	11	0.336	4	0.236	1.37	0.341	6	79	17	29	24	0.7	0.556	85	45	0					
	0.71	-	0.03	-	-	0.3	-	-	-	-	-	0.42	0.5	0.5	0.3	0.5	0.0	-	-	1.2	0.3					
	4	0.234	9	1.297	2.087	02	0.792	0.38	0.93	1.426	0.331	4	62	8	36	3	87	0.762	0.213	63	31	0				
	1.34	-	0.34	-	-	0.6	-	0.41	-	-	-	0.46	0.6	0.5	0.5	1.1	0.6	-	0.5	0.4	-	0.0				
	4	0.126	8	0.789	1.027	29	0.262	1	0.15	1.103	0.144	3	91	1	22	47	23	0.709	41	16	0.186	83	0			
	1.35	0.65	0.48	-	-	0.9	1.14	1.93	0.96	0.13	0.45	1.63	0.6	0.6	0.1	0.4	0.5	-	1.1	0.6	-	-	0.3			
	6	2	6	0.058	0.514	63	9	1	6	3	5	4	87	1	17	26	84	0.377	46	31	0.186	0.895	39	0		