THE INTERNET AND INFORMATION CAPABILITY REDUCES PERCEIVED RISK OF INTERNATIONALISATION: AN AUSTRALIAN SME PERSPECTIVE

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ABSTRACT

The Internet has the potential to generate international market expansion and future international growth for the firm. However, internationalisation is a complex high-risk decision for the firm, especially for the resource scarce SME. The Internet can assist to reduce the perceived risk associated with strategic decisions in the internationalisation of the firm. However, it is yet to be determined what impact the Internet has on reducing the perceived risk and uncertainty associated with internationalisation. The findings indicate that the Internet's ability to generate valued international market information through the Internet's enhanced communication interaction gives SME's rational analysis in international market growth decisions. In conclusion, the Internet reduces the asymmetry of information that would traditionally exist for SME's in the internationalisation process, which in turn, reduces the perceived risk associated with the internationalisation process of the firm.

Keywords: Internet, internationalisation, information and perceived risk

INTRODUCTION

Firms utilising the Internet in the internationalisation process can capture international transactions' and communications' operational efficiencies. More specifically, the ability to promote, access and process information pertaining to the internationalisation of the firm has significantly enhanced the capabilities of the SME's. Thus, the Internet has improved the firm's ability to interact with consumers, suppliers and business partners through multiple inexpensive integrated interactive technologies. However, it is yet to be determined how the Internet can reduce the high-perceived risk associated with internationalisation. Therefore, the exploratory research question, *"How does the Internet reduce perceived risk and uncertainty associated with the internationalisation process of Australian SME's?"* has been developed.

With this background, the article has been segmented into four main sections. The first section evaluates literature surrounding the impact of the Internet on SME's, as well as perceived risk and internationalisation theories. Further, international market growth decisions are bounded by the managerial decisions, which are governed by the perceived risk and uncertainty associated with internationalisation, a strategic process (Melin, 1992). Therefore, the internal managerial orientation factors of the firm are evaluated. In addition, the effects of the Internet's influence on internationalisation theory assist in highlighting significant changes to the body of knowledge, thus, these internationalisation constructs and concepts were used to develop a qualitative set of semi structured protocol questions. This section concludes with three research issues developed for the research.

Secondly, as the body of knowledge is still in its infancy stage and processes and procedures are still to be set a qualitative multiple case study exploratory approach is prudent and is

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assessed accordingly. The third section evaluates the findings from the research and highlights the importance of information accessibility and information dissemination on reducing the perceived risk associated with internationalisation of the firm. Lastly, it is concluded that the impact of the Internet alters perceived risk judgements to attractiveness judgement for SMEs associated with internationalisation for the firm. Further, a multidimensional assessment highlights that not only firm's but also consumer's and stakeholder's perceived risk is diminished due to the Internet. Having set the scene, SME's and the Internet will be addressed next.

LITERATURE REVIEW

SMEs and the Internet

With an estimated 1.6 million small business operators, the small business sector accounts for more than 97% of private business and employs more than 50% of the private sector in Australia (Australian Bureau of Statistics, 2004). Small business plays a significant role in the private sector and the overall Australian economy. The Internet's influence on small and medium enterprises (SMEs) internationalising has recently given rise to a number of articles on Internet international marketing (Arnott & Bridgewater, 2002; Aspelund & Moen, 2004; Hashai & Almor, 2004; Moen, 2002a, b; Moen et al., 2003; Moen and Servais, 2002; Poon & Swatman, 1997). It has been well-established that the Internet gives SMEs the capabilities of internationalising where this may not have been possible in the old economy (Aspelund & Moen, 2004; Bennett, 1997; Hamill, 1997; Simpson & Docherty, 2004). Although it has also been suggested that the capital capability of the firm may be a barrier to the implementation of the Internet for SME's (Taylor & Murphy, 2004), recent research in the United Kingdom has questioned this argument (Simpson & Docherty, 2004). Internet infrastructures are especially important for international Australian firms as these firms are geographically isolated from major trading partners and customers. Although the Internet alleviates the issue of isolation, the internal factors of the firm affect the perceived risks of internationalising, and these internal factors will be addressed next.

Internal factors

Internal firm factors such as human and capital resources, Internet readiness of firms, company size and industry specific factors are considered significant on the e-marketing efforts when entering the international arena (Arnott & Bridgewater, 2002; Freeman, 1998; Harrison-Walker, 2002; Palumba & Herbig, 1998; Quelch & Klein, 1996). Internal issues may also depend on industry specific elements and product specific characteristics, as some industries are affected by the Internet technology more significantly than are others. For example, information based products and services that are highly intangible and can be digitalised, such as the banking, music, publishing, computer software and travel industries, have a decisive advantage online (Arnott & Bridgewater, 2002). Some researchers have also suggested that less regulated industries have greater propensity for the Internet to impact internationalisation or foreign market expansion within the industry (Petersen et al., 2002). However, this is yet to be tested.

Managers plays a pivotal role in the process of the international market growth strategy, as such strategic marketing decision makers evaluate the perceived risk associated with international market growth. The psychological orientation or readiness of a manager, either having a *proactive* internationalisation stance or having a *reactive* stance to the market, has an influence on whether the firm chooses to internationalise and/or whether the manager utilises the Internet (Siegel, 2004). Researchers have suggested that not only is the proactive

orientation to internationalise important, but also a proactive international *customer* orientation has an important bearing on whether the firm utilises the Internet as a mechanism in its internationalisation endeavours (Aspelund & Moen, 2004). That is, if the firm is consumer focused they will integrate the Internet to better service their clientele in international markets. Further, the Internet adoption orientation of the manager is also a determinant variable in whether the firm integrates the Internet in the internationalisation process. Therefore, marketing decision makers have influence over the internationalisation of the firm, the inclusion of the Internet and the level of perceived risks associated with the process of internationalisation. The concept of perceived risk in the context of internationalisation will be discussed next.

Perceived risk

Perceived risk (PR) can be defined as the uncertainty an individual faces, as managers cannot foresee the consequences of their decisions (Eroglu, 1992). Two main principles of perceived risk have been recognised as the probability of negative outcome and the consequences of the outcome, for example the magnitude of loss (Eroglu, 1992; Mitchell, 1995). Moreover, perceived risk is based on the tolerance of internationalisation uncertainty by the specific decision maker (Wiedersheim-Paul et al., 1978). In an internationalisation context, perceived risk is the trade off between the perceived risk and the perceived benefit of internationalising versus choosing the alternative path of not internationalising (Eroglu, 1992; Ogbuehi and Longfellow, 1994). As Melin (1992) suggests, the core argument for a contemporary process driven theory of internationalisation is based on *rational analysis* as opposed to deliberate planned stages. That is, perceived risk and uncertainty is dependent upon valuable information pertaining to international markets (Melin, 1992). A lack of information is assumed to be responsible for perceived risk in internationalisation (Cavusgil, 1980). Generally neighbouring international country markets assist in lowering perceived risk as managers perceive a higher level of information and understanding of the neighbouring country, a concept known as psychic distance (Cavusgil, 1980; Johanson & Vahlne, 1977). Thus, the more the firm commits to internationalisation the greater the international information search behaviour of the firm (Ogbuehi & Longfellow, 1994). As trust offsets or counters perceived risk, in turn access to information becomes more important to avoiding risk (Sligo & Massey, 2007). Although, it has been argued that perceived risk is not necessarily determined by information limitations, this is not true for complex decisions, such as internationalisation (Gemunden, 1985).

Predominantly, the perceived risk theoretical framework from an organisational behaviour perspective is somewhat limited (Mitchell, 1995), in that it ignores the buyer's response to the firm or its offering. Thus, the buyer's perceived risk is generally the foundation for organisational behaviour perceived risk. This point is particularly important for SMEs as there is a significant association between buyer risk and company risk in a small business context. The reason for this association is that risk mainly relates to financial and performance uncertainty, which are far more relevant for SME's with less financial resources to lose than their larger counterparts. However, there are many dimensions of perceived risk, some of which have little relevance for organisational behaviour. Perceived risk dimensions include; physical, financial, performance, social, psychological and time risk (Eroglu, 1992; Mitchell, 1995; Mitchell and McGoldrick, 1996). Primarily, organisational behaviour perceived risk in an internationalisation context focuses on financial risk, as financial risk is associated with the initial development and recurring operational expenses (Subba Rao et al., 2007). Conversely, from a consumer perspective in internationalisation, financial and performance risk would be

the focus. Consumer financial loss in internationalisation transactions is perceived as high perceived risk, as is the ability of the firm to deliver on the product, brand and service promise that consumers expect, that is, performance risk. Thus, although six dimensions of risk are acknowledged, financial and performance risk from an organisational behaviour and an international consumer perspective will be analysed. Thus so far this article has looked at SMEs and the Internet, and perceived risk in internationalisation. Next, the concept of internetalisation is introduced.

Internetalisation theory

Internationalisation and the components of internationalisation theory have been altered due to the Internet (Buttriss & Wilkinson, 2003; Petersen et al., 2002), so much so that post-Internet internationalisation has been referred to as *Internetalisation* as opposed to internationalisation (Bell et al., 2001; Buttriss & Wilkinson, 2003). However, conjecture remains in the literature as to which model of internationalisation better depicts the Internet's impact on traditional internationalisation theory.

Petersen, Welch and Liesch (2002) propose a rethink of internationalisation theory in light of the significant enhancement to information availability and knowledge management due to the Internet, as the Internet has reversed conventional understandings that learned international knowledge is a slow process. That is, Peterson, Welch and Liesch (2002) argue that the Internet has enhanced information availability in the international marketplace and given the firm the ability to transfer objective knowledge (knowledge that can be stored). Thus, internationalisation post Internet is better understood by how internationalisation information and knowledge can be efficiently managed.

Despite this better understanding of how information and knowledge can be managed more efficiently post Internet, to date there has been no research which explicitly explores how or why access to this increased knowledge and the management and dissemination of such knowledge to the buyer decreases the perceived risk for SMEs in their decision to internationalise via the Internet. Thus , to answer the overriding research question of 'how does the Internet reduce the perceived risk associated with the internationalisation process of Australian SMEs', three research issues have been developed:

Research issue 1. How has the Internet influenced the firm's information availability in the internationalisation process?

As stated above, it has been argued that the Internet has made information retrieval, storage and analysis much easier and simpler, but there is no clarification as to whether that information not only relates to SMEs looking to internationalise, but also whether being able to access that information, by inference, reduces the perceived financial and performance risks discussed above. Hence the first research question has been developed.

Similarly, to be successful in their internationalisation, firms need not only to have the capacity to manage, but more importantly to disseminate that information to the buyers. Accessing and retrieving information is one thing, but to have the ability to disseminate useful information to other parties, for example, buyers, is a different issue. Therefore, research issue two has been developed.

Research issue 2. How has the Internet influenced the firm's ability to disseminate information in the internationalisation process?

In research issues one and two, there is the inference that by accessing and disseminating information, that is, using the enhanced information capacity of the Internet, the SME will reduce the perceived financial and performance risks in internationalisation. To explore such a proposition, research three has been developed. That is:

Research issue 3. Does the Internet's enhanced information capacity increase the firm's capability to decrease perceived risk in their internationalisation process? If so, how and why?

METHODOLOGY

Case studies, using non-probability purposive selection criteria was deemed to be appropriate for this research methodology for this study. The use of multiple case studies gives a holistic perspective of a complex phenomenon, namely the *Internet's influence on perceived risks* associated with internationalisation, thus, constructing a theoretical platform where no set procedures or standards are in place (Gummesson, 2000). One case or even multiple cases with embedded units or sub-units were deemed not practical in research involving SMEs. In-depth 1½-3 hour case interviews were conducted with experienced international marketing strategic decision makers, from 12 Australian SME's that operate internationally and where the firm uses the Internet in their internationalisation. Based on a priori theory, an interview protocol was developed to guide the interviews, the length of which precludes its inclusion into this article. However, a significant part of the process included questions about how the SME accessed information, the purpose of that information and then how the information was utilised or disseminated to others such as buyers. Direct questions about perceived risk were not in the original protocol, but as the link between information and perceived risk emerged during initial interviews, probing questions were added to explore perceived risk in subsequent interviews.

The theoretical concept of replication logic is used to select cases as both literal replication and theoretical replication gives a foundation for outcomes through confirmation and analytical generalisability to the study (Healy & Perry, 2000; Parkhe, 1993; Yin, 1994) or theory building (Eisenhardt, 1989). Therefore six cases were selected from small start-up firms and six from medium firms. Within the selection criteria of the six small start-up firms, three were in the business to business sector (B2B and three were in the business to consumer sector (B2C). Similarly, within the six medium sized firms, three were in the B2B sectors and three were in the B2C sector, as shown in table 1. Similarities in the predicted responses (literal replication) were expected within the six small companies as they were all small, and had similar resource problems. However, diversity in their responses (theoretical replication) was also expected within the same group because of their different market orientation (either B2B or B2C) and because they operated within different industries. Likewise, within the medium sized firms, similarities in answers were anticipated because their Internet experience was comparable. However, diversity in their answers was also expected because of their different industries, customer focus and sizes.

Table I: Case selection (replication logic)

Firm size/ Customer orientation	**Business to Consumer (6)**	**Business to Business (6)**
Start-ups **Small firms (1-19 employees) (6)**	**1** (alpha) **3** (gamma) **4** (delta)	**2** (beta) **5** (epsilon) **6** (zeta)
Medium (20-250 employees) (6) OECD (2002) definition of SME classification	**7** (Eta) **8** (Theta) **9** (Iota)	**10** (Kappa) **11** (Upsilon) **12** (Omega)

Source: developed for this research

The approaches to data analysis espoused by Miles and Huberman (1994) and Yin (1989) were adopted in this research. One of the most difficult aspects of case research is the case analysis (Yin, 1989), yet data analysis is the core of theory-building case studies (Eisenhardt, 1989). The analysis of qualitative data is a 'continuous iterative process' (Miles & Huberman, 1984, p.23). Following the collection of the data, three steps were used in the process; data reduction, data display and data analysis. However, the first step, data reduction, does not necessarily mean the quantification of data. Rather, it is the process of selecting, focusing, simplifying, abstracting and transforming the raw data as illustrated in table II. Data display, the second step, is the organised assembly that permits a conclusion to be drawn, which is the third and final step of the process (Miles & Huberman, 1994). The findings of each of the three research issues will now be discussed.

Table II: Within case study analysis matrix

Case Co. code	Co. type/ Size	Product type	No. Employees Ft/Pt	Customers Type	International proportion (%) of total Business	Interviewee position	Description of firm
Case 1 Alpha	Start up	Physical goods	2	B-to-C	70%	Managing Director	Online Bikinis retailer
Case 2 Beta	Start up	Digital products	8	B-to-B	99%	CEO	Adult entertainment online
Case 3 Gamma	Small	Physical goods	4	B-to-C	35%	Owner manager	Jewellery retailer
Case 4 Delta	Small	Physical / digital goods	2	B-to-C	100%	Owner manager	Specialised artwork & Images
Case 5 Epsilon	Small	Physical / digital goods	7	B-to-B	10%	Managing Director	Retail point of purchase software & hardware
Case 6 Zeta	Small	Services		B-to-B	100%	Marketing Manager	Secondary education exporter
Case 7 Eta	Medium	Physical / digital goods		B-to-B B-to-C	75%	Business development Director	Stored value cards: financial payment solutions
Case 8 Theta	Medium	Service		B-to-C	40%	Marketing Director	Tourism destination/ accommodation
Case 9 Iota	Medium	Service/ destination		B-to-C	20%	General Manager	Tourism attraction
Case 10 Kappa	Medium	Service / destination		B-to-B	60%	General Manager Asia Pacific	Business services franchiser
Case 11 Upsilon	Medium	Service / physical good		B-to-B	7-70%	Business develop manager Australasia	Catering & hospitality contracts
Case 12 Omega	Medium	Services / digital goods		B-to-B	10-20%	Managing Director	Asset management software

Note: Cases have been given a Greek letters to represent the company, as the anonymity of firms is an imperative ethical consideration. Start up denotes an Internet company that started online. Conversely, if not indicated the firm is not a start up.
*A broad scope of SME definition was used for exploration so as to get a richer understanding of the key issues and variables. For example, case 9. Iota has 500 employees (however this is only in peak times) and is within the OECD definition of SME (OECD, 2002).

FINDINGS

Research issue one—information accessibility

The first research issue asked how the Internet influenced the firm's information accessibility in the internationalisation process. To answer this question, the different types of information that the firm might seek and the level of its importance were investigated. It was found that the Internet's influence on information was one of the, if not the most important elements affecting the internationalisation process for firms. All types of information were considered as important by firms. More specifically, nine firms positively identified international *market information* as an important Internet capability for internationalisation. Further, the ability of

firms to gain information about *competitors* was also perceived in a positive light with half of the firms finding it important. Similarly, the level of importance of information concerning *customers* in international markets was confirmed with six firms indicating it was important or very important, one indicated medium importance with five indicating little importance or least important. These findings confirm the argument that firms positively perceive the Internet's capacity to gain both information about customers and competitors in international markets (Hamill and Gregory, 1997). However, more importance is placed on general market information as opposed to consumer information when contemplating internationalising. That is, consumer information was considered difficult to assess online for most firms. Conversely, the Internet's ability to assist in sourcing information about *resources* in international markets was considered as being of least importance by two thirds of respondents, as seen below in table III. Therefore, certain types of information are perceived as being more influential than others, for example, market information, competitor and customer information assists in allowing SME's the perception of making more informed decisions concerning internationalisation, as illustrated in table III.

In summary, the overall capability of the Internet to influence information pertaining to the process of internationalisation was strongly confirmed. For the most part the Internet's influence on information accessibility pertaining to international market growth was found to be a positive influence. Thus, disconfirmed the propositions that Internet technology does not have a positive affect on international activities (Andersson et al., 2004) and confirming Peterson, Welch, and Liesch (2002) argument that information speed and accessiblilty for the firm is positively influenced in the internationalisation process. Further, the Internet capacity of the firm enhanced the decision maker's ability to formulate potential international market growth forecasts, thus reduced the perceived risk of internationalising. The transference of information and knowledge is a complex process. Thus, the Internet's influence on information dissemination is evaluated next.

Table III Internet usages in information components of internationalisation

	Least important		**Medium**		**Most important**	**Aggregate**
Level of importance	1	2	3	4	5	
Gaining information about the market	Beta (1)	Gamma (1)	Kappa (1)	Eta Theta Omega (3)	Alpha Delta Epsilon Zeta Iota Upsilon (6)	**Important (9)** Medium (1) Not important (2)
Information about competitors		Eta Iota (2)	Beta Epsilon Zeta Upsilon (4)	Alpha Delta Theta Kappa Omega (5)	Gamma (1)	**Important (6)** Medium (4) Not important (2)
Information about customers		Gamma Delta Zeta Kappa Omega (5)	Beta (1)	Epsilon Eta Theta Iota Upsilon (5)	Alpha (1)	**Important (6)** Medium (1) Not important (5)
Information about resources	Alpha Gamma Delta Zeta Eta Theta Iota (7)	Kappa (1)	Omega (1)	Beta Upsilon (2)	Epsilon (1)	Important (3) Medium (1) **Not important (8)**

Source: developed for this research
Note: respondents were asked to rank from least important to most important.

Research issue two: information dissemination

The second research issue concerned how the Internet influenced the firm's ability to disseminate information in the internationalisation process. Two main elements are associated with information dissemination. The first encompasses knowledge from the buyer's perspective, that is, knowledge related to brands and branding and the trust associated with such concepts. The second element is that of knowledge management.

Firms gain a level of legitimacy by having a website in international markets, through the creation of international brand awareness, reputation and by enhancing their brand equity (brand strength or value in the market). The Internet's influences on branding elements were considered pivotal in enhancing the dissemination of company information in international markets. The aggregate of these international marketing/branding components assist in the firm building a level of trust in the market place, thus, reducing the perceived transactional and performance risk to potential target markets and/or stakeholders in future interactions.

Firstly, firms on the whole found the Internet to be essential in the development of legitimacy (7/12) with potential target customers and partners (networks) in international markets, as seen in table IV. That is, without the website firms were not perceived to be legitimate or real, as customers used the company website as a crosschecking tool or point of reference. For example, *"without a website customers and agents would not believe that we are a real company in international markets"* (*Zeta* 2005). Thus, without a website or Internet presence the firm is perceived as not existing or that it cannot be trusted in the mind of the target consumer, supplier or potential partner. These findings confirm recent results that indicate firms perceive the website as a positive benefit that legitimises the firm for the outside world (Rudolph et al., 2004). However, the tourism firms (D) did not see the website as a point of legitimacy as their destinations are physical locations and therefore there is no need to legitimise something like a tourism destination. Additionally, high traditional supply chain commitment may also alleviate the need to legitimise the company via the website, as travel or tour agents (A) are the point of transaction in non-matured markets. Therefore, the intermediary agent needs to be trusted by the end consumer, as opposed to the principle tourism destination in these traditional channel structures. Thus, creating legitimacy through a website for these agent dependent firms is not viewed as important.

However, the Internet has given SME's the ability to have an international presence of its brand instantaneously. Branding through the website was viewed as pivotal in the development of trust with end users and potential partners: for example, *"people give us money that we haven't met before, so they are trusting the brand on the website"* (*Eta* 2004). More specifically, brand awareness and overall brand equity assist in the development of reputation and assist in reducing the perceived performance risks associated with international transactions. Brand awareness was perceived by most firms (9/12) as the most beneficial element of the Internet as the WWW gives the firm a global presence through the corporate and/or intermediary websites. Overall the Internet was viewed as an effective mechanism to advance the firm's branding strategies and thus its information dissemination.

Table IV Website marketing elements and trust issues

Case code	Perceived risk	Legitimacy	Branding	Brand awareness	Brand association	Brand equity	Brand consistency	Comment
Alpha		**S**	√	√	√	√	√	URL is the brand. No physical catalogue exist thus online reputation is essential
Beta		**S**	√		√			Reputation is pivotal
Gamma		√	√	√	√	√	**X**	Differentiated branding Use of FedEx hyperlink for brand leverage through recognition
Delta		**-**	√	√				Not really used for marketing of the firm
Epsilon		√	√	√			√	Website is used as a follow up from tradeshows Website makes us a legitimate company
Zeta		√					√	Website is limited for marketing. However, website is pivotal for gaining legitimacy in international markets.
Eta		√	√	√	√	√	**X**	The use of MasterCard logo for brand recognition Brand is the key to reducing high perceptions of risk
Theta		**A D**	√	√	√		√	Web-branding leads-everything else follows. Website helps tell the story. Careful not to be seen as circumventing agents
Iota		**A D**	√		√	√	√	Representation of product. Brand reduces perceived risk online. Must not be seen to circumvent agents
Kappa		√	√	√			√	Website gives a call to action Alleviates perceived risk
Upsilon		√		√			**X**	International customers are differentiated online
Omega		√					√	Website gives clients a point of cross checking
		7	**9**	**8**	**6**	**4**	**7(3)**	

Note: S= start-up, A=Agent dependent, D=Destination
Source: developed for this research

Further, some firms viewed the Internet as influential enough to strengthen the overall brand equity of the firm (*Alpha, Gamma, Eta & Iota*). Websites have the ability to potentially reduce the perceived risk for consumers in international markets through brand enhancement. These findings highlight the potential ability of the Internet to create a level of trustworthiness for the firm in international markets, primarily through knowledge dissemination via the company website.

Another facet of information dissemination is knowledge transference. The ability of the Internet to facilitate knowledge transference was acknowledged by all firms, however, at varying levels, as shown in table V. That is, all firms identified the Internet's influence on knowledge transference, although for the most part only at a basic level. The Internet's influence on objective knowledge learned was evident. However, tacit knowledge learned or experiential knowledge (transferred) was not evident. This finding confirms the propositions by Petersen, Welch, and Liesch (2002) that tacit knowledge is complex and difficult to be transferred, as the Internet for most of these SME's has limited influence in the transference of experiential knowledge pertaining to internationalisation. These findings may vary for larger MNC's that invest heavily in Internet infrastructures for internationalisation internal interaction such as IBM with their VOIP (Voice Over Internet Protocol) and CRM (Customer Relationship Management-Seibel) systems. However, the ability to use the Internet in the development of knowledge management systems even at a basic level makes the complex process of internationalisation more efficient for SME's and thus assists in simplifying the high complexity process of internationalisation.

Table V Knowledge management systems.

Case	Information	Market information	Competitor information	Customer information	Resource information	Knowledge transference	Formal system	Informal system	Comments
Alpha	√	√	√	√		√		√	The Internet has driven all of the internationalisation
Beta	√				√	√	√		Terminal servers and in-house networks that can analyse conversion measurements
Gamma	√		√			√	√		Backend website analytical system, breakdowns data for better conversion rates.
Delta	√	√	√			√		√	Simple intranet system. (e-mail)
Epsilon	√	√		√	√	√	√		In-house database. Communications tracked-patterns, conversion rates are measured
Zeta	√	√				√		√	e-mail system- an informal e-mailing system is used (limited)
Eta	√	√		√		√	√		"*Osmosis of information*." It happens through e-mail and our intranet
Theta	√	√	√	√		√	√		Formal system. e-mail (building a better picture). Keeping master files
Iota	√	√		√		√	√		An integrated departmentalised intranet system. Integrates information technology and international marketing information and knowledge concerning domestic and international markets.
Kappa	√		√			√	√		"*It fundamentally changed the entire process of internationalisation*." Very sophisticated information system due to the digitalisation of product offerings
Upsilon	√	√		√	√	√	√		Product supplier's information is kept on a server. Specific market particulars are continually developed in an intranet system
Omega	√	√	√			√	√		Feedback systems in-house reports and database profiling system
	12	**9**	**6**	**6**	**3**	**12**	**9**	**3**	

Source: developed for this research √= denotes positive importance to the firm

Both formal and informal systems to transfer objective knowledge were used with varying degree as seen in table V. That is, not all firms used intranet or database systems to generate knowledge transference as some firms used more informal simple e-mail systems. However, all firms used the Internet in the development of knowledge transference in some capacity. Further, informal systems were linked to the firm's financial capability and limited awareness, education and training of knowledge management, which has also been found in recent SME knowledge management research (Koh and Maguire, 2004). Overall, the more successful internationalisation knowledge management processes were integrated Internet/ intranet systems. Moreover, the more formalised the Internet system with an intranet, the greater the ability to develop internationalisation knowledge transference activities, as can be illustrated by Internet usage intensity in table VI. Thus, the Internet and intranet level of intensity is related to the firm's ability to transfer objective knowledge.

Table VI - Internet usage intensity

Case	e-mail	Website information	Chat rooms	Digital notice boards	e-mail	Website information	Intranet	Transaction online	Online support	Customer web space	Extranet	Chat rooms	Digital notice boards	Comment
1. Alpha	VSI	VSI	MI	LI	√	√		√	√					Total dependency on the website Personalised e-mail support system
2. Beta	VSI	MI	LI	SI	√	√	√	√	√					Trillion pro instant messaging system- interaction with business networks
3. Gamma	VSI	VSI	VSI	LI	√	√	√	√	√	√				Web based support system, live helpdesk Personalised customer web-space
4. Delta	VSI	MI	NI	NI	√	√								Limited website usage. e-mail used heavily in transaction/ delivery of product
5. Epsilon	VSI	VSI	NI	SI	√	√	√	√	√					e-mail support system Newsletters
6. Zeta	VSI	SI	NI	LI	√	√								Limited use of internet technology Agent based network
7. Eta	SI	MI	SI	LI	√	√	√	√	√	√	√			Live helpdesk Newsletters
8. Theta	VSI	VSI	NI	LI	√	√	√	√						Sophisticated backend system that assesses website efficiencies
9. Iota	SI	VSI	LI	LI	√	√	√	√						Heavy dependency on co. website & 3rd party websites for transaction
10. Kappa	VSI	VSI	VSI	VSI	√	√	√	√	√	√	√	√	√	Intense dependency on Internet for all business
11. Upsilon	SI	MI	NI	LI	√	√	√							3rd party online databases for tenders e-mails are used for negotiations
12. Omega	VSI	MI	NI	NI	√	√	√				√			Extranet distributes product- e-mail used in relationship with agents
VSI SI MI LI NI	**9** 3 - - -	**6** 1 5 - -	**2** 1 1 2 6	**1** 2 7 2 -	12	12	8	7	6	3	3	1	1	

Source: developed for this research

Index: VSI= Very strong importance, SI= Strong importance, MI= Moderate importance, LI= Low importance, NI= No importance and √= use of this technology

In summary, the Internet was found to reduce perceived risk as firms were able to disseminate information and transfer knowledge rapidly.

Research issue 3 and discussion

The final research issue is at the core of this article, that is, 'does the Internet's enhanced information capacity increase the firm's capability to decrease perceived risk in its internationalisation process? If so, how and why?' By analysing the two previous research issues, the third research question can now be answered.

The findings indicated predominantly that the Internet has significantly broadened the international market opportunities for SME's by reducing the perceived risks associated with the process of internationalisation. Interestingly, not only start-ups Internet firms (*Alpha & Beta*) were identified as using the Internet as a primary mechanism for international growth, as the enlightened traditional established small firm perceived the Internet as the "*only way to internationalise" (Gamma, 2005)*. Internationalisation is traditionally perceived as a capital and human intensive slow and risky cumbersome process. The Internet for the most part alleviates those complex traditional barriers of information asymmetry, slow pace and high associated costs and risks perceived by SME's when contemplating internationalisation (pre-internationalisation). More specifically, the Internet gives SME's access to greater quantities of valued (by the firm) information, an enhanced ability to interact with relevant actors with a mechanism to develop legitimacy when a physical presence is not possible or difficult in international markets. Thus, the Internet reduces a number of those perceived risk that generally act as a psychological barriers in the internationalisation process of the firm.

Some authors may argue that the Internet has limited capability to generate a level of trust due to adverse selection problems, despite its enhanced information capability (Petersen et al., 2002). This was *not found* to be the case in this research. On the contrary, firms identified the Internet as being not only important in the reduction of perceived risks for the firm in the process of internationalisation (Aspelund and Moen, 2004) but also in the development of a level of trust (Hoffman and Novak, 1996) with customers and stakeholders. Corporate names or branding have been identified previously as important for consumer trust online (Rudolph et al., 2004). This has also been confirmed as firms can reduce the financial and performance perceived risks for customers in international markets through the development of a higher level of interaction through websites and e-mail than was previously possible (Miller, 1998).

CONCLUSION

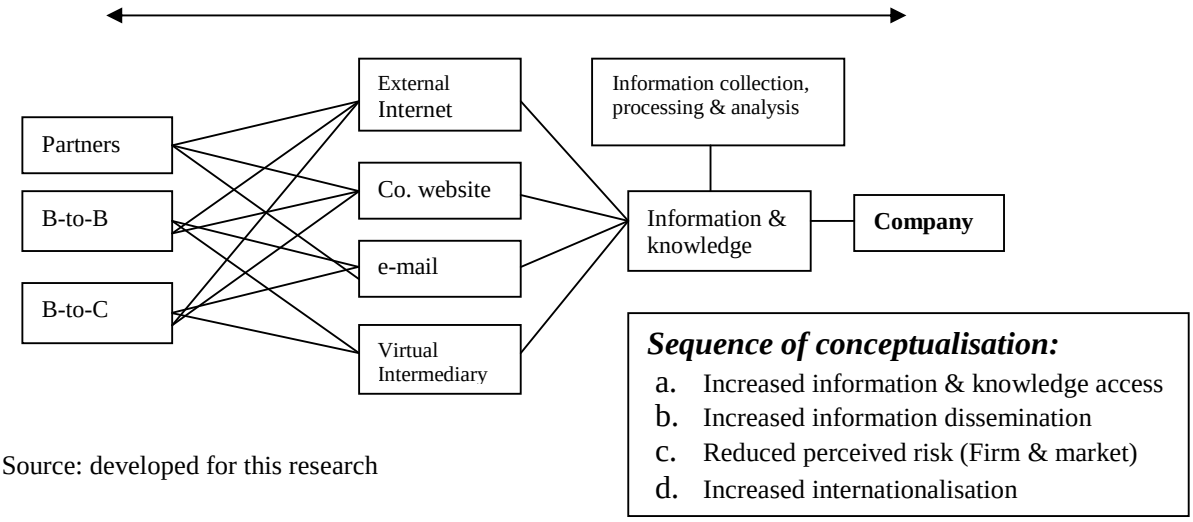
International entrepreneurial creativeness, risk taking and proactiveness to internetalisation can be inhibited by the firm's resource deficiencies (Hutchinson et al., 2006). SME's generally have scarce resources for internationalisation, thus, traditionally SME's internationalisation is limited. However, with the low cost of the Internet and limited consequences of financial loss due to the Internet perceived risk has been diluted. The Internet has given unprecedented access to international market information and the mechanism to reach and disseminate information to international markets with relative ease. That is, firms need not have a physical presence in a country market to capitalise on market share opportunities, as a virtual presence in most industries is now acceptable business practise.

Information search behaviour by the organisation is generally suppressed by cost (Cho & Lee, 2006). However, the Internet has given SME's information capabilities that traditionally only MNC's would have. Thus, both access to internationalisation information and the ability to disseminate information into these markets have shifted what would normally be a risk judgement by the manager to an attractiveness judgement. That is, where perceived risk is not a high-risk judgement by the manager the decision becomes an attractiveness judgement as opposed to a perceived risk judgement (Weber et al., 1992).

From this research, a model has been developed to illustrate the dimensions and sequence of perceived risk, the Internet and internationalisation (refer Figure 1). This model illustrates that the Internet is a vast pool of information which can be accessed, processed and analysed by the firm and used as a decision making tool that assists in reducing perceived risks associated

with the firm's internationalisation process. More specifically, vital information pertaining to customers, competitors and more importantly the market reduces the information asymmetry that would traditionally exist in the internationalisation process for SME's. Thus, the Internet can assist in the management of information and knowledge for Australian SME's, giving internationalisation decision makers a greater ability and more confidence in their forecasting decisions concerning international market growth. Further, the Internet has a multi-level effect on reducing the level of perceived risk. That is, the perceived risks associated with the internationalisation process (firm), international networks and online/ international consumer purchasing perceived risk (financial and performance) (Moore & Mathews, 2007), are reduced. Thus, the Internet and perceived risk has a multidimensional context effect on the firm, consumer and stakeholders, not simply the consumer. Consequently, there is a need for a more holistic research focus on the Internet's influence on the perceived risk associated with internationalisation from a multi-dimensional firm, network and consumer view point to fully explore the complex interrelationships between the actors and the technology that are developing in the internationalisation of SME's in Australia.

Figure I. Information interaction-reduced perceived risk-a multi-dimensional perspective



Source: developed for this research

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