

The Role of Tie Strength, Relational Capability and Trust in the International Performance of High Tech SMEs.

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ABSTRACT

This study identifies and examines the relationship between network characteristics and international performance of High Tech SMEs (HTSME) in the telecommunications industry in Ireland. The network characteristics construct for this paper comprises three dimensions: strength of ties, relational capability and trust. Empirical research was carried out using a mail survey in which 154 firms completed and returned the questionnaire. Five hypotheses were analysed using structural equations modelling using LISREL. The hypothesis stating that stronger ties are more influential on international performance than weak ties was supported. Strong ties and trust were positively associated with international performance, but non-significant. Weak ties and relational capability were negatively associated with international performance. Therefore, these findings indicate that the level of interdependence between the firms in this research is not prominent. The findings also imply that the effects of networks are contingent: they can present both strengths and constraints to firms.

KEY WORDS:

Networks, Strong and Weak ties, Relational Capability, Trust, High Tech SMEs, International Performance

1. Introduction

Reliance on networks and inter-organisational relationships has grown considerably in recent years, while partnerships with external actors have become a central strategy for many organizations in a wide range of industrial contexts (Gulati, 1995). Within the IMP perspective, progress has been made at identifying, describing, discussing and conceptualizing connected relationships. This body of work confirms that relationships and firms do not exist in isolation, but rather that they are connected to form a network of direct and indirect relationships (Holmen and Pedersen, 2003). These relationships form part of a firm's network horizon and network concept. The network concept comprises all firms and relationships (direct and indirect) that a focal firm considers relevant (Anderson et al, 1994). The network horizon, according to Holmen and Pedersen (2003) comprises those other firms and relationships of which a focal firm is aware – whether or not it considers them relevant. The part of the overall network, which a focal firm is not aware of, is its environment. The part, which the focal firm is aware of, is its network horizon. The part of the network horizon that is considered relevant therefore, is the firm's network context. The network horizon and context is relevant in this study as relationships are seen as important in the international environment that requires participation of both partners to perform activities jointly (Achrol et al. 1988). Furthermore, in the context of High Tech SMEs, relationships allow firms to cope with increasing technological dependence on others and the need to develop and tailor offerings. Each firm gains benefits and incurs costs from the network and from the investments and actions of all the parties involved (Håkansson

and Ford, 2002).

A relationship between actors or partners in this context can be characterized in terms of the strength of their social ties, their level of trust, and the extent to which they share common processes and values (Kale et al., 2000; Cohen and Prusak, 2001). The IMP literature refers to nodes and threads in relation to connections between actors (Håkansson and Ford, 2002). The content of the threads is the result of investments by both actors. The development of the threads gives opportunities to both nodes, however the existence of the threads also impose restrictions on the actors. The strength of tie literature provides ample evidence of benefits that can be derived from both strong and weak ties. Kale et al (2000) argues that relational capital has important performance implications for partners. However, empirical research to support the bias that trust in particular, in international relationships enhances performance is limited and equivocal (Katsikeas et al. 2009).

The primary objective of this study is to shed light on the question of whether tie strength, relational capability and trust actually matter when it comes to the international performance of High Tech SMEs? Networks allows firms to access foreign markets, therefore, the categorisation of strong and weak ties outlined in this paper will be operationalized by using mode of entry. Three dimensions of network characteristics are proposed in the model, namely tie strength, relational capability and trust. The strength-of-ties construct deals with the nature of the relational bond and the interdependencies between firms in the network. Strong and weak ties differ in terms of frequency of contact, resources committed and the social dimension of the relation. While a firm is likely to have a mix of strong and weak ties, Kale et al (2000)

argue it will benefit from a portfolio of ties favouring one type more than the other depending on the conditions surrounding the firm. The relationships examined in this paper range from low to high levels of interdependencies depending of the mode of foreign market entry used by the firm. The model proposed in this paper, argues that as strong ties are more beneficial in terms of execution and integration, they are more likely to lead to a higher level of international performance than weak ties. Relational capability is the ability to interact with other companies and refers to the degree of reciprocity and closeness among firms. Holmen and Pedersen (2003) further define this ability as being able to analyse and influence partners' joining, relating and insulating functions. Issues such as mutual respect, social skills, communication skills (language and culture) and level of cooperativeness are covered under relational capability. Trust affects the depth and richness of exchange relationships and is an essential prerequisite for most forms of interdependent relationships (Moran 2005). This model proposes examining relational/interpersonal trust as independent of other structural characteristics of the network. This was based on strong evidence in the literature to the importance of trust in achieving behavioural and market performance objectives in inter-organisational partnerships, especially in cross-border relationships where hierarchical control may not be a viable alternative.

The quantitative analysis and the qualitative comments portray managers in High Tech SMEs that appear not to buy the network concept as outlined in this study. Specifically, stronger ties emerge as more influential on international performance than weak ties. Strong ties and trust were positively associated with international performance, but non-significant. Weak ties and relational capability were negatively associated with international performance. Therefore, it becomes clear in the conclusions that the level of interdependence between the firms in this research is not prominent. This finding is somewhat at odds with IMP literature, since IMP stress interdependencies rather than independence. That is, IMP does not stress that interdependence, relationships and networks are inherently good, but that they impact on firm activities.

The rest of the paper is organised as follows: Firstly, a discussion on internationalisation and the HTSME is presented. Secondly, the derivation of the hypotheses is presented. Thirdly, the research method and the empirical results are outlined. The final section provides a discussion of these findings along with some limitations and future research directions.

2. Internationalisation and the high tech SME

Although there is no single agreed definition of HTSMEs, these are generally characterised by small and medium-sized firms with advanced knowledge and capabilities in technology, an educated workforce, and the ability to adapt quickly to fast changing environments (Crick and Spence, 2005). These characteristics facilitate the internationalisation of HTSMEs which have been known to act quickly when windows of opportunity in foreign markets present themselves (Lindell and Karagozolu, 1997; Baldwin and Gellatly, 1998). SMEs within the high tech sector frequently operate within a narrowly defined market niche. Firms operating in, e.g. wireless data security cannot afford to target only a single (home) market. If the company is to take full advantage of the market potential this means simultaneous penetration to all markets (Saarenketo et al., 2004).

The internationalisation process of small and specialized high technology firms is often different from that of more mature in-

dustries (Saarenketo et al., 2004). In dynamic high tech markets, one of the factors influencing high performance appears to be speed of internationalisation. Recent reports (Fan and Phan, 2007) show that these firms are growing and expanding their operations to other countries at a relatively faster pace than others. Consequently, HTSMEs may not necessarily have the time to integrate prior knowledge and fully develop their international strategies before implementing them as suggested by Johanson and Vahlne (1977). Instead, these companies need to react rapidly, develop mechanisms to assess opportunities quickly and allocate resources to take advantage of them. The results of these actions, some being previously labelled 'reactive strategies' have become the basis for survival in dynamic environments (Eisenhardt and Martin, 2000). Interpersonal and inter-organizational relationships are viewed as the media through which these firms can gain access to a variety of resources (Hoang and Antoncic, 2003). Furthermore, firms that pursue opportunities in foreign markets enabled by network resources may experience greater international growth than those that do not. Spence and Crick (2005) substantiate this argument by claiming that the internationalisation of HTSMEs is, in fact an inherently entrepreneurial act in itself, whereby firms seek out new potential resources and resource combinations in networks to exploit in foreign markets.

3. Hypotheses

3.1 Strength of Ties

It is widely acknowledged that networks of different structural and relational characteristics have specific strengths, and hence a composition of network ties is required to support business development (Granovetter 1973; Johansson 1988; Dubini and Aldrich 1991; Gargiulo and Benassi 1999). Håkansson and Ford's (2002:134) work conceptualising the network as nodes and threads argue that the content of the threads or ties between actors in a network is the result of the investments by both counterparts in the relationship. The greater the investment the more substantial will be the content of the thread. The stronger the threads are- the more content there is and hence, the more important they are in giving life to the node, but also the more restrictions that are imposed on changes to the nodes or firms in the network.

The strength of ties literature is primarily concerned with the nature of the relational bond between two or more social actors, as well as the effect this bond has on information sharing activities (Granovetter 1973; Frenzen and Nakamoto 1993; Uzzi 1997; Hansen 1999). Tie strength researchers typically classify the relationship between social actors as being linked by either a strong tie or a weak one (Rindfleisch and Moorman 2001).

By treating strong and weak ties as separate constructs rather than degrees of one another, Rowley et al (2000) state that this captures richness in the data, which past researchers deem important in understanding network effects and firm behaviour. Rowley et al (2000) conceptualize strong and weak inter-organisational ties as separate constructs, different in kind rather than degree based on Contractor and Lorange's (1988) original ordinal scale. They categorize equity alliances, joint ventures, and non-equity cooperative (R and D) ventures as strong ties, while defining marketing agreements, and licensing and patent agreements as weak ties, thereby capturing the strength of inter-firm relationships on the basis of the partners' typical levels of interaction in, and resource commitment to, each alliance type.

Capaldo (2007) builds on this previous strength-of-ties research at the inter-organisational level of analysis, wherein three major aspects of partnering behaviour have been advanced to express tie strength: the amount of time that characterizes the tie (Kraatz 1998), the partners' level of resource commitment (Rowley et al. 2000), and the social contents which develop at both inter-personal and inter-organisational levels (Rindfleisch and Moorman 2001). This duration, frequency and intensity dimension, therefore, synthesizes the resource and social dimension of the tie strength.

According to Håkansson and Waluszewski (2002), interaction within networks can refer to resources that are not only technical or physical, but also include resources that are social in origin, such as the skills and knowledge of individuals or groups. In fact, the relationships that form a network is a resource in its own right (Håkansson and Snehota, 1995: 27). These relationships comprise routines, information, memories, and expectations. Relationships also include intangible resources such as various kinds of knowledge (Baraldi et al, 2012: 124)

As referred to earlier, networks allows firms to access foreign markets, therefore, the categorisation of strong and weak ties outlined above, will be extended to include entry modes. Internationalisation 'mode' refers to the organisational structure used to enter and penetrate a foreign market. Often, modes are organised according to the resource commitments they require and the level of control over international operations that the firm can afford (Johanson and Vahlne 1977). Internationalisation modes include: indirect exporting (i.e. via domestic intermediary); direct exporting; exporting via foreign intermediary; sales and/or manufacturing joint venture; sales and/or manufacturing subsidiary; and licensing and franchising (Calof and Beamish 1995; Petersen and Welch 2002). In terms of the firm's commitment of resources, exporting modes are lower commitment modes, while foreign joint ventures and subsidiaries are higher commitment modes. Agndal and Chetty (2007) looked at changes in mode strategy where relationships were an important influence. Most of the mode changes in their research were gradual in terms of commitment of resources rather than leaps in forms of multiple steps at once, thus supporting Johanson and Vahlne (1977) that internationalisation occurs incrementally. As the firms gained more knowledge and experience in their international markets they often switched to a higher commitment mode, which was often a change from a distributor to a sales subsidiary (Agndal and Chetty 2007).

This research addresses the concerns of Agndal and Chetty (2007) who feel that although some researchers have focused on the firm's network positions and connections and how these affect internationalisation (Axelsson and Johanson 1992), mode selection has been neglected. One perspective on internationalisation focuses on organisational learning, which is based on Penrose's (1959) ideas. For example, scholars such as Johanson and Vahlne (1977) focus on the issues of knowledge as a resource and mode selection. They argue that as firms become more experienced with conducting international activities, they become more willing to commit additional resources to these activities. The entry mode as a formal part of the internationalisation process, and indicative of the competitive stance of SMEs in international markets, would seem fundamental to a fuller understanding of international entrepreneurship according to Jones and Young (2009), who reviewed over 140 international entrepreneurship and found that over 80 failed to accommodate any discussion on the role of entry mode or mode of operation as a component of international venturing. Specifically in net-

work studies, they feel that entry modes tends to be neglected and underplayed as concern is focused on the development of relationships rather than the governance of business activities. This study explicitly addresses this gap in previous studies as it uses mode to entry to operationalize the tie strength construct when measuring the elements of network characteristics.

In the literature, strong ties are shown to provide organisations with two primary advantages. First, strong ties are associated with the exchange of high-quality information and tacit knowledge. Uzzi (1996) observed in his study of the New York apparel industry that firms participating in strong ties were able to exchange fine-grained knowledge. In the development of strong ties, inter-firm partners learn about each other's organisation, become more dependent on one another and develop relational trust (Larson 1992). Based on a deeper understanding of a partner's operations, tacit knowledge is more readily transferred across organisational boundaries, which are blurred by close contact (Hagg and Johanson 1983).

Second, strong ties serve as part of the social control mechanism, which governs partnership behaviours. Firms enter strategic alliances with competitors to gain access to external resources, share risks and cost, or pool complementary skills (Hagg and Johanson 1983; Kogut 1988; Hagedoorn 1993). Larson (1992) shows that strong ties incrementally promote and, in turn enhance, trust, mutual gain, reciprocity, and a long-term perspective. Consequently, partners are more likely to forego individual short-term interests, exercise voice (rather than exit), and develop joint problem-solving arrangements (Powell 1990; Uzzi 1996). Strong ties produce and are governed by relational trust and norms of mutual gain and reciprocity, which grow through a history of interactions (Powell 1990; Larson 1992). Similar to Powell's (1990) assertion that networks represent a separate and distinct organisational form, Uzzi (1996) refers to this alternative governance system based on trust as the logic of embeddedness, and argues that it is the product of cohesive/intense ties.

These strong tie benefits are different from the advantages gained through weak ties. Granovetter (1973) argues that weak ties are conduits across which an actor can access novel information. Weak ties are more likely than strong ties to be 'local bridges' to distant others possessing unique information. The strength of weak ties argument is as much about structural embeddedness as it is about relational embeddedness. A weak tie can be beneficial, because it is more likely to embed an actor in (or provide access to) divergent regions of the network rather than to a densely connected set of actors. For example, according to Granovetter's (1973) argument, an actor's collection of weak ties is more likely to be a sparse structure reaching divergent regions of the surrounding network.

The substantial support for the benefits derived from both strong and weak ties suggests that neither type is unconditionally preferred. Indeed, strong and weak ties have different qualities, which are advantageous for different purposes. Tiwana (2007) found that weak ties provide innovation (exploration) potential for firms, but lack integration (exploitation) capacity, and strong ties provide integration capacity but lack innovation capacity. In the context of international trade, it can be argued that strong ties are more beneficial than weak ties since they allow for greater volume of resources to move between actors (Podolny 2001), have greater motivation to be of assistance and are typically more easily available (Granovetter 1983), more willing to take the time to carefully explain, detail, or listen to novel or complex ideas (Granovetter 1985; Uzzi 1996; Hansen 1999; Moran 2005), and ultimately, as strong ties are more

beneficial in terms of execution and integration, they are more likely to lead to performance related outcomes, such as contracts signed, sales and market share attainment. Furthermore, it has been widely accepted that resources being tacit in nature cannot easily be transferred by arm's length transactions (Kogut and Zander 1992). Especially internationally dispersed intangible resources are difficult to access by arm's-length transactions (Zander 1999), thereby calling on the use of closer, stronger ties between firms.

Therefore, it can be argued that a portfolio of strong and weak ties have benefits for international trade, also it is possible to argue that as a firm develops stronger ties with other partners, they are more likely to commit more resources and have a higher level of commitment, which in turn can lead to exploiting more opportunities for international trade. Thus:

Hypothesis 1: There is a positive relation between strong ties and international performance

Hypothesis 2: There is a positive relation between weak ties and international performance

Hypothesis 3: The relation with international performance is stronger in strong ties than in weak ties.

3.2 Relational Capability

Relationships are not only a necessity for firms to transfer knowledge and capabilities and to co-ordinate the transfer process (Johanson and Mattsson 1987; Forsgren 1990), for instance by reducing uncertainty (Sölvell and Birkinshaw 1999); they are also means to create new knowledge and capabilities (Hallen et al. 1991; Håkansson and Snehota 1997). It has been stated, though, that any focal organisational unit will maintain close, intense, and frequent relationships only to a limited number of network partners within its business network (Holm et al. 1996; Håkansson and Snehota 1995; Forsgren 2002). Units that actually maintain close, intense, and frequent relationships are thereby considered as being embedded in their business network (Andersson et al. 2001). It is assumed that the closer the relation and the higher the number of close relationships, the higher is the unit's degree of embeddedness within its business network. The possibility to assimilate new knowledge and to modify or generate capabilities is stated to be positively related to the degree of embeddedness of the focal unit within its business network (Andersson et al. 2001).

Relational embeddedness, which is an essential dimension of a strong tie, refers to the degree of reciprocity and closeness among firms. Networks that are characterized by high relational embeddedness are networks of organisations that have strong socializing relationships and share similar attitudes and behavioural norms. Firms within such highly cohesive networks tend to be active in communication processes and thus share more common information and same understandings. Past research indicates that a high level of relational embeddedness in network relationships can enhance the level of access and transfer of fine-grained information and, more importantly, tacit knowledge and know-how among firms within the network (Gulati 1998; Hansen 1999; Lorenzoni and Lipparini 1999). When firms are close to one another, they tend to develop interaction routines with more frequency and intensity, resulting in more willingness in information sharing and greater ability of firms to absorb and act on the new information and knowledge in a timely manner (Dyer and Singh 1998; Hansen 1999). Furthermore, Kapasuwana (2006) found a positive relation between relational embeddedness, organisational learning and international performance. Past

research has operationalised relational embeddedness (Bonner et al. 2005; Grundlach et al. 1995; Heide and John 1992; Rindfleisch and Moorman 2001), relational skills (Walter et al. 2006), relational competence (Loxton and Weerewardena 2006), relational capital (Badaracco 1991; Inkpen 1994; Mohr and Spekman 1994; Madhok 1995; Gulati 1995; Dyer, 1996; Dyer and Singh 1998; Kale et al. 2000) using similar constructs. Relational skills, also referred to as social competence (Baron and Markman 2003) includes such aspects as communication ability, extraversion, conflict management skills, empathy, emotional stability, self-reflection, sense of justice, and cooperativeness (Browne 1996; Tushman and Nader 1996; Foray 1997; Marshall et al. 2003; Ritter and Gemünden 2003). Social qualifications in a cross cultural setting are of special interest, skills such as cultural awareness and foreign language competency are important for interpersonal interaction in the international trade arena (Kenny and Sheikh 2000).

Kale et al (2000) refers to mutual trust, respect and friendship that reside at the individual level between alliance partners as relational capital. Trust will be dealt with separately in the next section. Furthermore, Kale et al (2000) argues that relational capital has important performance implications for alliance partners. Lorenzo and Lipparini (1999) regard 'relational capability' as the capability to interact with other companies, a capability that is based on absorption, combination and coordination.

According to Holmen and Pedersen (2003: 411), the effectiveness of the exchange between two companies relates to how well it dynamically acts and reacts in a network context depicted by change and stability. Håkansson and Snehota (1989: 530) go further by stating that the efficacy of companies performance in a network is contingent not only on how well the focal firm performs in interaction with its direct counterparts, but also on how these counterparts in turn manage their relations with third parties.

This study will focus on relational capability, which essentially is a measure of the quality of the relationship and is an amalgam of each of the terms mentioned above. The background literature consequently leads to the development of the following hypothesis:

Hypothesis 4: The higher the level of relational capability of a firm within the network the greater the impact on International performance

3.3 Trust

The assimilation of knowledge and the generation of critical capabilities require intense, close, and frequent relationships because knowledge and capabilities are intangible resources characterised by a high degree of tacitness. The transfer of tacit resources is only feasible in an atmosphere of trust between the entities involved in the transfer process (Grabher 1993). Thus, the transfer of tacit resources has to be interpreted as a social phenomenon rather than a market transaction (Tyre and Von Hippel 1997).

Trust between partners is often cited as a critical element of network exchange that in turn enhances the quality of the resource flows (Larson 1992; Lorenzoni and Lipparini 1999). Other scholars have also defined network governance by the reliance on 'implicit and open-ended contracts' that are supported by social mechanisms, such as power and influence (Thorelli 1986) and the threat of ostracism and loss of reputation (Portes and Sensenbrenner 1993; Jones and George 1998) rather than legal enforcement.

A number of scholars have asserted that these distinctive elements of network governance can create cost advantages in comparison to coordination through market or bureaucratic mechanisms (Thorelli 1986; Jarillo 1988; Jones and George 1998; Lipparini and Lorenzoni 1999). In particular, mutual trust as a governance mechanism is based on the belief in the other partner's reliability in terms of fulfilment of obligation in an exchange (Pruitt 1981). Trust allows both parties to assume that each will take actions that are predictable and mutually acceptable (Powell 1990; Uzzi 1997; Das and Teng 2000).

These expectations reduce transaction costs—for example, monitoring and renegotiating the exchange in reaction to environmental changes—particularly in highly complex tasks facing strong time constraints (Jones and George 1998). The presence of inter-firm trust is an extraordinary lubricant for alliances that involve considerable interdependence and task coordination between partners, firms with prior network connections are likely to have greater awareness of the rules, routines, and procedures that each needs to follow (Gulati et al. 2000).

Trust also affects the depth and richness of exchange relationships, particularly with respect to the exchange of information (Saxenian 1990; Lorenzoni and Lipparini 1999; Hite 2003). For example, a qualitative study of vertical relationships involving the purchase and supply of goods or services between networked firms revealed that the nature of the information exchange extends far beyond a discussion of price and quantity. Uzzi (1997) found that information exchange between clothing manufacturers and their 'embedded' small suppliers tended to be more holistic in nature. Because of its positive impact on information flows, trusting behaviour is cited as a critical factor in enhancing innovation through inter-firm collaboration (Hausler et al. 1994) and an integral reason for inter-firm networks' longevity (Saxenian 1990; Lipparini and Lorenzoni 1999).

Essentially, trust can be viewed as the basic active ingredient of social capital, the condition that allows an actor to reliably expect to obtain and use the resources made available through one's contacts (Ring and Van de Ven 1994; McAllister 1995; Nahapiet and Ghoshal 1998). The focus here is on relational or interpersonal trust (McAllister 1995; Rousseau et al. 1998). Such trust is constructed through personal interactions and experiences with the other party. Conditions for this form of trust include the assessed integrity of the contact, their competence in ongoing exchanges, and their predictability through the alignment of goals and values (Butler 1991; Hosmer 1995; Rowley et al. 2000).

Turning towards the contributions this research makes to the trust literature, Zaheer et al (1998, p. 141) note: "considerable ambiguity is evident in the literature about the precise role of trust as it operates at different levels of analysis and its influence on performance." As mentioned earlier, this study measured trust independent of structural characteristics of the network. In the international context, there is evidence that the choice of foreign partner is often mandated by the host government, or that firms do not choose optimal partner firms due to the information asymmetries about long-term partner objectives during the initiation stage. Aulakh et al (1996) points out – little systematic research attention has been given to identifying the determinants of inter-organisational trust. Katsikeas et al (2009) notes that of particular interest are the findings that external uncertainty is not directly related to trust, but enhances a party's opportunistic inclinations. One line of speculation for the lack of a direct link between external uncertainty and trust pertains to the adaptation problem created by turbulent environmental condi-

tions (Rindfleisch and Heide 1997). Environmental uncertainty can limit decision-makers' predictive abilities, make elaborate contracts difficult and costly, and render even the most detailed agreements inadequate. In an attempt to adjust more readily to changing conditions surrounding international exchanges, importing firms may opt for developing relational norms that promote actions toward relation preservation (Heide and John 1992) and thus facilitate trusting behaviours. Although external uncertainty could be argued to undermine trust, one might also suggest that, from a normative perspective, the inherent need for trust is greater under high levels of external uncertainty. However, Becerra et al (2008) suggest that risk or uncertainty does not necessarily need to be present for trust to exist or to be meaningful. Strategically, firms may find it prudent to work jointly with their foreign suppliers on contingency plans covering those cases where environmental changes seem potentially imminent. When circumstances change radically (i.e., outside the boundaries of existing agreements), there may be ambiguity about how to actually define an opportunistic action. It may be possible that fluctuations in the environment affect the parties' understanding of what constitutes opportunism in the first place? As Zaheer and Zaheer (2006) note, there is still only the barest appreciation of the role of trust in cross-border relationships.

Those studies where trust has been explicitly considered in social capital research concern redundant, cohesive networks, where the visibility of actions places enormous sanctions on opportunistic behaviour and thus engenders a form of calculated trust (Coleman 1988). What has been considered, in other words, is network structure (i.e., closure) as a substitute for trust and not the trust associated with interpersonal relationships. Trust, then, is often left unmeasured or else its presence is assumed to be associated with a certain structural form (Moran 2005), such as strong ties or relational embeddedness. One exception to this was Wincent (2005) who measured trust in the context of networking width and depth inside the SME network and found trust to be related to corporate entrepreneurship. To the extent that trust is an important element and is engendered through *interpersonal* experiences (Granovetter 1985; Uzzi 1996; Rowley et al. 2000), Moran (2005) contends that it is important to measure it and determine its value, independent of structural characteristics of the network. Besides the role of trust as a behavioural deterrent of opportunistic behaviour and as an alternative to ownership control (Aulakh et al. 1996), there is also evidence that building trust in inter-organisational partnerships has important market performance and efficiency implications (Parkhe 1993). Therefore, it can be argued that in a network, firms that trust their partners are more likely to engage, combine resources, and trade together to enhance performance in international markets. Hence:

Hypothesis 5: The higher the level of trust between partners in a network the greater the impact on international performance.

4. Measures

The scales used in this study were sourced from the literature, and in some cases were modified for the current research context.

4.1 Strength of ties

Networks allow firms to access foreign markets, therefore, strong and weak ties are measured through foreign market entry modes. Internationalisation 'mode' refers to the organisational structure used to enter and penetrate a foreign market. Often, modes are organised according to the resource commitments

they require and the level of control over international operations that the firm can afford (Johanson and Vahlne 1977). Internationalisation modes include: indirect exporting (such as, via domestic intermediary); direct exporting; exporting via foreign intermediary; sales and/or manufacturing joint venture; sales and/or manufacturing subsidiary; and licensing and franchising (Calof and Beamish 1995). In terms of the firm's commitment of resources, exporting modes are lower commitment modes and treated as weak ties, while foreign joint ventures and subsidiaries are higher commitment modes and are considered strong ties.

4.2 Relational Capability

Relational capability consists of a twelve item scale measuring the quality of the relationships within the network. The relational embeddedness dimension is measured by one item from Bonner et al's (2005) scale and two items from Rindfleisch and Moorman (2001). Social competence in a network setting is measured by two items from Walter et al's (2006) scale on relational skills, one item on level of interaction between partners from Kale et al's (2000) relational capital scale, two items from Loxton and Weerewardena, (2006) relational competence scale and three items from Ritter and Gemünden's (2003) social scale.

Social competence in this study follows Baron and Markman (2003) and included such aspects as communication ability, extraversion, conflict management skills, empathy, emotional stability, self reflection, sense of justice, and cooperativeness (Tushman and Nader 1996; Browne 1996; Foray 1997; Marshall et al. 2003). Social competence in a cross cultural setting are of special interest, skills such as cultural awareness and foreign language competency are important for interpersonal interaction in the international trade arena (Kenny and Sheikh 2000) and an additional item is included to capture this.

4.3 Trust

Three items developed from Sividas and Dwyer (2000) captured a firm's trust in its cooperative partners inside the SME network. Three additional items from Moran (2005) captured the dimension of relational trust and included the perception of honesty

and truthfulness in exchange, perceptions of competence in on-going interactions and alignment of goals and values.

4.4 International market performance

Three dimensions have been identified to capture the firm's level of international market performance. These dimensions are based on the company's marketplace performance (Jaworski and Kohli, 1993), financial performance (Narver and Slater, 1990), and levels of customer satisfaction (Walter et al., 2006). The first two dimensions relate to a more objective analysis of performance and are based on marketplace indicators (i.e. sales growth over the past three years and the market share of the firm's number one product) and financial indicators (i.e. average return of investment, revenue and pre-tax profitability). For customer satisfaction, respondents were asked to consider the extent to which they felt their firm had varying levels of customer satisfaction and retention.

5. Method

This study adopted Dillman's (2007) Tailored Design Method (TDM), which asserts that survey response can be explained in terms of the theory of social exchange. According to Fahy (2001) the appeal of TDM is that it provides the researcher with a comprehensive set of theoretically based and empirically tested guidelines for survey design, questionnaire construction and questionnaire implementation.

SMEs are the focus of this study as they are a key economic sector in Ireland, where they constitute 97% of enterprises and contribute to the flexibility and resilience of the economy as well being active in international markets (SBA, 2008). This study draws on research from HTSMEs, in the telecommunications and internet services sectors in Ireland. This industry was selected as it is considered a global industry with a complex value chain. It is also an industry with high levels of inter-firm network and export activity.

For the current study, the population comprised of all compa-

Table 1 Means, Standard deviations and correlations

Variable	Mean	St. Dev.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Weak Tie 1	10.188	3.287															
Weak Tie 2	9.463	2.916	0.524														
Weak Tie 3	11.057	3.295	0.401	0.424													
Weak Tie 4	10.537	3.076	0.503	0.508	0.565												
Strong Tie 1	12.712	2.173	0.386	0.468	0.437	0.514											
Strong Tie 2	11.584	2.729	0.284	0.289	0.357	0.367	0.421										
Strong Tie 3	10.986	3.234	0.290	0.380	0.364	0.528	0.399	0.367									
Relational Capability 1	6.099	2.192	0.091	0.100	0.171	0.273	0.144	0.208	0.174								
Relational Capability 2	4.805	2.282	0.139	0.105	0.100	0.193	0.227	0.123	0.150	0.509							
Relational Capability 3	5.288	2.588	0.124	0.134	0.1008	0.236	0.253	0.213	0.233	0.594	0.570						
Trust 1	5.757	1.705	0.143	0.281	0.089	0.137	0.163	0.037	0.172	0.250	0.432	0.415					
Trust 2	8.601	2.753	0.091	0.180	0.096	0.119	0.081	0.010	0.214	0.311	0.383	0.362	0.753				
International Performance 1	8.184	2.753	0.199	0.113	0.204	0.329	0.307	0.257	0.307	0.081	0.286	0.235	0.147	0.187			
International performance 2	12.187	4.413	0.142	0.167	0.300	0.333	0.260	0.214	0.341	0.125	0.184	0.216	0.243	0.246	0.769		
International Performance 3	8.405	2.622	0.161	0.141	0.188	0.248	0.249	0.274	0.296	0.171	0.246	0.243	0.212	0.239	0.832	0.813	
International Performance 4	8.433	3.633	0.137	0.115	0.293	0.377	0.206	0.219	0.331	0.167	0.206	0.172	0.178	0.182	0.667	0.807	0.647

N = 149 (after 5 outliers eliminated). Correlations greater than or equal to 0.07 are significant at p < 0.05. Correlations greater than or equal to 0.10 are significant at P < 0.01.

Table 2: CFA and Constructs Reliability

<i>CFA and Constructs Reliability</i>	Standardized Loadings	Regression Weights	t Values
Group 1			
Weak Ties (CR = .77, AVE = .30)			
Direct Importing	0.41	0.17	4.71
Indirect exporting via agent	0.6	0.36	7.37
Indirect exporting via distributor	0.61	0.37	7.53
Direct exporting	0.56	0.31	5.79
Exporting via foreign intermediary	0.57	0.33	6.97
Marketing agreements	0.63	0.39	7.79
Patenting agreements	0.52	0.27	5.17
Informal partnering arrangements	0.45	0.2	5.29
Strong Ties (CR = .65, AVE = .25)			
Sales or manufacturing joint ventures	0.4	0.16	4.49
Equity Alliances	0.54	0.3	5.38
Non-equity R and D Alliances	0.64	0.42	7.79
Sales or manufacturing subsidiary	0.61	0.37	7.26
Licensing	0.34	0.12	3.86
Franchising	0.36	0.13	3.99
Relational Capability (CR = .83, AVE = .47)			
Stay together during adversity/challenge	0.53	0.28	6.57
Feel indebted to our partners for what they have done for us	0.36	0.13	4.35
Expect that we will be working with our partners far into the future	0.63	0.4	8.23
Have close, personal interaction between the partners at multiple levels	0.73	0.53	9.83
See the value in mutual respect between the partners at multiple levels	0.86	0.73	12.54
Nurture mutually beneficial relationships	0.85	0.73	12.44
Trust (CR = .79, AVE = .47)			
They are very competent in the areas in which we interact	0.42	0.19	5.22
They have the ability to contribute to cooperative projects	0.52	0.27	6.35
We trust they would act in our companies best interest	0.83	0.69	11.37
They share our overall goals and values	0.84	0.71	11.59
They are generally honest and truthful in the information provided	0.61	0.37	7.6
Group2			
Performance (CR = .88, AVE = .49)			
The International Market Share of your number 1 product/service	0.69	0.48	9.45
Your International Sales Growth over the last 3 years	0.91	0.82	14.18
Your Average Return on Investment	0.33	0.11	4
Your total Turnover	0.3	0.089	3.64
Your International Turnover	0.93	0.9	15.45
Your Total Pre-Tax Profitability	0.27	0.075	3.33
Your International Pre-Tax Profitability	0.9	0.91	13.99
Customer satisfaction in international markets	0.7	0.49	9.57
Customer retention in international markets	0.74	0.54	10.53
<i>Construct reliability (CR) was calculated as follows: (square of summation of factor loadings)/(square of summation of factor loadings) + (summation of error variances) (Fornell and Larcker). Average variance extracted (AVE) was calculated using the following formula: (summation of squared factor loadings)/ (summation of squared factor loadings) + (summation of error variances) (Fornell and Larcker).</i>			

nies in the telecommunications, internet and related industries. In order to compile a relevant sampling frame, data from the Irish Central Statistics Office (CSO) and The Commission for Communications Regulation of Ireland (ComReg), Business and Finance and Dunn and Bradstreet were used. The focus was on a single industry in one country to control for industry- and country-specific factors affecting international performance.

In relation to time, this study is cross sectional and the survey was carried out over a six week period in April/May 2008. This study was based on a mail survey of 458 SMEs (with more than 3 and less than 250 employees) drawn from this population. The questionnaire underwent multiple pre-tests. Whenever possible, multiple-item measures were used to minimize measurement error and to enhance the content coverage for constructs. State-

Table 3: Items removed during Purification Process

Item	Source	Construct
Have difficulty communicating our needs to others	Ritter and Gemünden (2003)	Relational Capability
Have a level of proficiency of the language of our foreign partners	Kenny and Sheikh (2000)	Relational Capability
Successfully terminate a partnership once it has exceeded its useful lifespan while maintaining good business relationships	Loxton and Weerawardena (2006)	Relational Capability
Confidently handle negotiations with others	Ritter and Gemünden (2003)	Relational Capability
Put ourselves in another person's position	Walter, Auer and Ritter (2006)	Relational Capability
Easily understand other people	Ritter and Gemünden (2003)	Relational Capability
Their motives could be questioned	Wincent (2005)	Trust

ment-style items were measured on seven-point Likert-scales.

The overall response rate for this study was 40.39% with a useable response rate of 33.64%. The specific activities carried out by respondent firms include the following: computer consultancy, computer services, computing and bureau services, data communications, Internet services and Web design, telecommunications and telephone cost management.

A missing data process in accordance with Hair et al. (2006) is not deemed an issue in this study as only one questionnaire was returned incomplete. However, further analysis of missing data was performed using Preliis 2.80 to impute individual missing values using the estimated means algorithm following Du Toit and Du Toit (2001).

Using a t-test, early and late respondents were compared on several key characteristics such as importance of relationships, percentage of revenue derived from international markets, importance of international markets to overall performance and number of years exporting. No significant difference was found at the 0.05 level. Thus, based on these results and considering that the response rate was relatively high, it was concluded that non-response bias is not a significant problem. Furthermore, size and location differences between respondents and non-respondents revealed no significant differences between the sample and the population under investigation.

Harman's single factor test was performed to test for the presence of common method variance bias (Harman, 1967; Podsakoff et al., 2003; Chang et al., 2010). All variables were entered into an unrotated principal components analysis. The results of the analysis indicated nineteen items with eigenvalues greater than 1 and no single factor accounted for more than 33.7% of the covariation. Only one variable accounted for 18% of the variance. The results indicate that common method variance, though probably present to some degree, does not affect the results in this study.

Although this study collected mainly quantitative data through the questions and scales used, respondents also had the opportunity to provide additional qualitative comments at the end of the questionnaire. Some of the quotations from the analysis of this data are used later in the discussion section of this paper.

5.1 Scale Validation

Table 1 provides the descriptive statistics and correlations for the composite variables used in this study. The measures of strong

and weak ties, relational capability and trust were positively correlated with the measures of international performance with correlations ranging from 0.091 to 0.832.

Table 2 displays the results obtained from the estimation of the CFA model. An inspection of these results shows that all items loaded on their specified constructs. Convergent validity is evidenced by the large and significant ($t < 1.96$, $p < .05$) loadings on the items on respective constructs (Shoham, 1998). As far as the reliability is concerned, table 2 presents the results of the composite reliability (CR) and the average variance extracted (AVE). The values for the CR ranged from 0.65 to 0.88, which exceeds Bagozzi and Yi's (1988) recommended minimum level of 0.60. In terms of AVE, all scores are below the 0.50 guideline and range from 0.25 and 0.49 and are acknowledged as a potential limitation of this study.

The measurement model tested (Network Characteristics) was one in which each item loaded on only 1 of 4 factors corresponding to its composite subscale. This hypothesized 4-factor model did not fit the data well from a statistical perspective ($\chi^2=860.84$, $df=458$, $P < .05$), however, from practical perspective, the measures of fit are slightly better (GFI=.74, AGFI=.76, CFI=.85, RMSEA=.075, and RMR=.23), but still below the recommended guidelines. Thereby suggesting improvements to this model could be made.

A review of the summary statistics for the network characteristics model reveal an absence of 'improper' or unreasonable estimates i.e., none of the error variances or latent variable variances are negative. The vast majority of the parameter estimates are significantly different to Zero (as indicated by t values greater than 1.96). The signs of the parameters estimates are consistent with the hypothesised relationships among the latent variables. Also, the squared multiple correlations of the manifest variables are indicative of the degree to which the indicators are free from measurement error. Here the R2 values are low, moderate and high (ranging from 0.12 to 0.73). Suggesting the manifest variables are reasonably successful as measures of the latent vari-

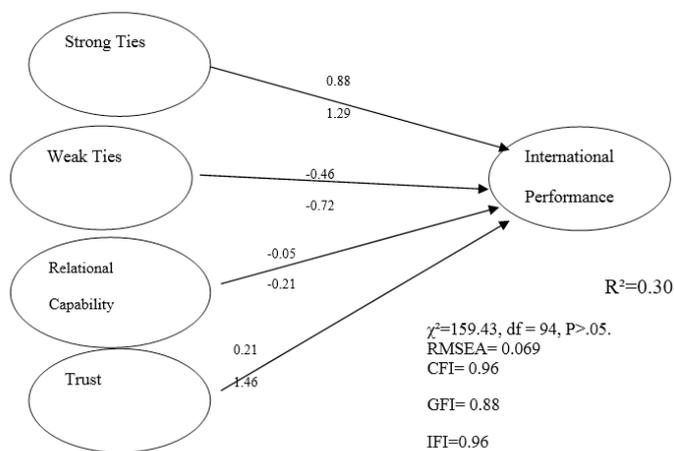
Table 4: Summary of Model Fit Statistics

	χ^2	df	P	GFI	AGFI	CFI	NNFI (TLI)	RMSEA	RMR
Model 1 (network characteristic): 32 items loading on four factors	860.84	458	<.05	0.74	0.70	0.85	0.84	0.075	0.23
Model 1A (network characteristic): With 7 dropped items	446.98	246	0.00	0.81	0.76	0.90	0.90	0.071	0.22

ables in the model. The covariance among independent variables in this model shows that they are positively related to each other as indicated by the relevant t values. In addition to the summary statistics outlined here, LISREL also provides modification in-

dexes (MIs). An MI suggests by how much the chi-square test of fit is expected to decrease if a given fixed parameter is freed to be estimated. Thus, MIs can be useful for making decisions about revising hypotheses about factor structure. However, as Pedhazurm and Schmelkin (1991) cautioned, researchers should not blindly rely on MI to improve model fit while ignoring the substantive meaning of freeing a parameter. A second model (with seven items in table 3 dropped) was tested. Model fit statistics are shown in table 4.

A comparative test of this model against the previous model, achieved by contrasting the difference in their chi-square values relative to the difference in their degrees of freedom, confirmed that modifications made an improvement in the fit of the model to the data ($\chi^2=446.98$, $df=246$, $P=0.00$). Nonetheless, inspection of the fit statistics in table 4 indicated that there was an improvement also in goodness of fit statistics.



Note: standardized parameter estimates above the line and *t*-values below the line

Figure 1 Final Model

6. Results

As outlined above, the proposed measurement model was consistent with the data; the hypothesized structural model was estimated using LISREL 8.80. Before estimating the structural model, composite variables were created to deal with the issue of small sample size. The Single Factor Method was used for this study, as according to Landis et al. (2000), it is the most frequently reported method in the literature and its purpose is to distil original set of items to a reduced number of indicators that are empirically balanced measures of the constructs. Figure 1 shows the parameter estimates, *t*-values and the fit statistics for this structural model.

7. Discussion of the findings

Hypothesis 1 posits a positive relationship between strong ties and international performance. The path coefficient between these two variables was found to be positive, but not significant. Thus, hypothesis 1 was not supported in this research.

Similarly a positive relationship between weak ties and international performance was predicted by hypothesis 2. In this instance, a negative and a non-significant relationship were revealed and as a result hypothesis 2 was not supported. Hypothesis 3 predicts that the relationship with international performance is stronger in strong ties than in weak ties. In order to test this hypothesis, this study uses an equality constraint to allow the paths to be equal and to retest the full model. The com-

parison of both models uses a chi-square difference test; and the constrained model is not significantly different. Therefore, the conclusion is that the relationship between strong ties and international performance is indeed stronger than the relationship between weak ties and international performance.

The finding that there is a negative relationship between weak ties and international performance may be explained in the context of resource constrained HTSMEs operating in a complex business environment. Håkansson and Snehota, (1995) argue that only a small portion of the opportunities and restrictions in the business environment can be perceived or even acted upon. A consequence of this is that the network horizon of a HTSME is and should be narrow. Further support for this line of thinking is provided by Wilkinson and Young (2002: 127), who argue that there are hidden dangers in firms trying to take into account more of the effects of their actions on their relationships and connections between them. Such dangers, according to Holmen and Pedersen (2003) refer to the problems that arise if a network becomes too richly interrelated and structured. The argument for a narrow network horizon sits alongside the reality that firms should also gain an understanding of how a particular network functions from the perspective of its counterparts (Holmen and Pedersen (2003). The network paradoxes outlined by Håkansson and Ford (2002) provides some explanation of this juxtaposition as they argue that networks can represent both strengths and constraints, networks are also a way to influence and be influenced, and the more a firm achieves the ambition of control within a network, the less effective and innovative will be the network.

Rindfleisch and Moorman (2001) view the structural aspects of inter-organisational ties as more important for acquiring information about processes than products. This finding, they contended, may be due to the likelihood that competing firms are working on similar technologies independently (Allen 1983) and thus have less need to acquire process related information from each other. This contention may well hold true in the case of the high technology companies from the telecommunications sector sampled for this study. This also leads on to the issue of control over their inter-firm activities. Chetty and Agndal (2007) used the terms 'high-control mode' and 'low-control mode' to represent the degree of control that a firm has over its internationalisation mode. The more international activities that are externalized (such as, managed by someone else, for example, through an agent or distributor), the less control the firm has over its internationalisation mode. The more activities that are internalized (such as, managed by the firm, for example, equity alliance / subsidiary), the greater is the firm's control over its international activities, and thus the greater is its control over its internationalisation mode.

The lack of support for the hypotheses in relationship to strong and weak ties and performance may not be a surprise when considering the costs associated with building and maintaining ties. These relationship resources can be a liability because it has a downside pertaining to the risks involved and the investment in time and costs associated with forming, monitoring, and sustaining social capital (Yli-Renko et al. 2002).

Similar to the support for hypothesis 3, Choo and Mazarol (2001) found that small firms using licensing, franchising, manufacturing and acquisition (similar to strong ties in this study) as principal market entry modes outperformed firms that were using direct exporting, strategic alliances, foreign distributor, independent overseas agent and joint venture (similar to weak ties in this study). These results are consistent with other studies that

have attempted to assess the relation between performance and entry mode of multinationals by Li and Guisinger (1991), Simmonds (1990) and Woodcock et al (1994).

Jones and Young (2009) considered entry modes as emergent from other processes, typically network processes and the formation or exploitation of social capital. This has implications in light of the findings of this study as according to Jones and Young (2009) this indicates that there are international activities and processes that occur before the establishment of the first entry mode and changes between entry modes, and which may instigate and facilitate subsequent mode changes (Sharma and Blomstermo 2003; Moen et al. 2004; Crick and Spence 2005; Chetty and Agndal 2007). Indeed, entry modes themselves, as forms of business activity, involve various social processes and the formation of routines and competences that result from the firm being involved internationally (Sapienza et al. 2006).

Drawing on the relevant theories, the entry mode literature tends to treat entry modes as discrete, mutually exclusive strategic alternatives, which is how the strength of ties/entry mode construct was viewed initially in this study. However, Jones and Young's (2009) view of the international entrepreneurship literature gives a broader perspective on entry modes. In this literature, there is a general acceptance that modes may be mutually supportive, established concurrently or in succession, and may be complex arrangements with several partners and elements of reciprocity. Similar to the IMP literature, this view is further supported by Agndal et al (2008) who found that both direct and indirect relationships are important in foreign market entry, but that direct relationships dominate in the early phase while indirect relationships become increasingly important in later stages.

7.1 Relational Capability

Hypothesis 4 proposed a positive relationship between relational capability and international performance. The results revealed a negative and a non-significant relationship between these two variables, which means hypothesis 4 is not supported. This finding is similar to the views of Sullivan-Mort and Weerawardena (2006, p.566) whose research on networking capability in high tech born-globals found that networking activity may not be the panacea for all 'ills' of small firms. Instead they comment that networking activity must take the form of a competitive capability complemented by entrepreneurial opportunity-seeking behaviour.

Sullivan-Mort and Weerawardena's (2006) research findings also identified a negative aspect of networks which, they refer to as 'network rigidity'. Involvement in networks may limit strategic options as opportunities must then be pursued within the network boundaries. The effect of network rigidity on market performance should be the focus of future research (Sullivan-Mort and Weerawardena 2006).

Networks and inter-firm relationships can be as Tang (2009) described a 'two-edge sword' that can facilitate as well as inhibit the development of firms (Håkansson and Ford, 2002; Chetty and Campbell-Hunt 2004; Witt 2004; De Wever et al. 2005). A key constraint exerted by participating firms is the lock in effect. This occurs when a firm is over embedded with existing network partners: the firm fails to broaden its network horizons with prospective partners and to identify potential business opportunities beyond the predefined network boundary (Han et al. 1993; Uzzi 1996; Portes 1998; Gulati et al. 2000; Adler and Kwon 2002; Gadde et al. 2003; Holmen and Pedersen, 2003). Smaller firms are more likely to be locked in and subject to inertia in networks

due to their liabilities, whereas larger firms may often be better established within the network and can possibly exercise more power over smaller firms (Johnsen and Johnsen 1999; McAuley 1999; Meyer and Skak 2002; O'Donnell 2004). The possible captivity of firms by networks implies that while firms need to maintain long-term stable relationships with network partners (in order to cultivate commitment and trust to enable reciprocal exchanges of resources), Holmen and Pedersen (2002) and Tang (2009) believes that firms will benefit from analysing and adapting their networks responsively to match emerging conditions and resource demands in the course of business development.

In light of the preceding discussion two quotations provided by participating companies in this study add more insight to this argument:

"We have found that efforts to form productive partnerships were expensive and fruitless. Parties only want to get involved when you have secured the revenue stream"

"I don't really buy the 'network concept' – it's more a set of individual partner relationships which we work through. We have a lot of one to one networks, but almost none involve us and the other company"

According to the IMP perspective, strategy for a firm concerns the way in which it achieves exchange effectiveness in relation to other counterparts in their network. Holmen and Pedersen (2003) contend that this depends on how well a firm is able to read the network - where it is now and where it will be in the future. Thus the exchange effectiveness a firm develops in relation to its context is achieved through the establishment and maintenance of relationships with other parties. Håkansson and Ford (2002: 134) argues that managerial and decision making should be concerned with trying to understand how a company dynamically relates to its dynamic network context – its changing interfaces with both immediate and more distant counterparts. The findings here that relational capability is not related to international performance may be further explained by taking into account the contention that firms are not free to choose how its network horizon is portrayed, since this depends on the abilities and interests of direct counterparts and third parties and on the relationship between them (Holmen and Pedersen, 2003).

7.2 Trust

Hypothesis 5 posited a positive relationship between trust and international performance. A positive relationship between these variables did emerge; however, it was not significant at the 95% confidence interval. Hence hypothesis 5 is not supported. This finding is consistent with Aulakh et al (1996) and Wincent (2005) who did not find a significant relation between trust and performance. Both studies suggest that trust may be better understood as part of the culture of the firm and specifically, in the case of Aulakh et al (1996), as the macro-cultural environment that surrounds the partnerships.

While some studies in the literature find that trust improves performance (Cullen et al.2000; Zhang et al. 2003), several others reveal the absence of a significant direct link between trust and performance (Aulakh et al. 1996; Inkpen and Currall 1997; Sarkar et al. 2001; Fryxell et al. 2002), and still another (Lyles et al. 1999) reports a negative relation with performance. Similar findings from research on inter-organisational trust include Grayson and Amber (1999), who found that trust's effect on performance is lower for long-term versus short term relationships. Selnes and Sallis (2003) found a negative interaction effect of trust and relation learning on performance, leading to less in-

formation exchange, fewer meetings, less evaluation of relation, and less adjusting to end-user performance.

Zaheer et al (1998, p. 155) in their research found that trust directly affects performance, but the effects are not mediated through reduced conflict or reduced negotiation costs. According to their post hoc analysis, trust's effect on performance may be mediated not by gains in efficiencies as much as by 'exchange of personnel', shared decision making, and improved coordination.

In contrast to some previous studies, which suggested that trust building always leads to desirable outcomes (Dirks and Ferrin 2001), Fang et al's (2008) research reveals that trust can be counterproductive in ways that extend beyond the obvious vulnerabilities discussed in previous research. The negative impact of intra-entity trust on external responsiveness appears to be caused not by excessive vulnerability but rather by excessive closeness, insularity, and perhaps even a perception of invulnerability.

Wicks and Berman (2004) emphasized the important idea that trust is a costly governance mechanism, to be deployed only when necessary. They suggest that the greater the degree of interdependence between the parties to the exchange, the greater will be the need for trust. Importantly, Wicks and Berman (2004) point to the notion that the extent of trust in inter-organisational relationships is a choice made by firms. They go on to suggest that trust in these relationships is supported by institutional, socio-cultural, and industry norms, and these 'trust support mechanisms' moderate the relation between the choice firms make about how much to invest in trust and performance outcomes. From an International Joint Venture perspective, Zaheer and Zaheer (2006) argued that these ideas are important because they suggest that the context of trust, which can differ systematically across national environments, exerts an important influence on the relation between the degree of trust and performance. Where the institutional and socio-cultural support for trust is weak, high-trust strategies are likely to be more expensive to implement.

Hite (2005) sees trust as the cornerstone of relationally embedded ties, as this study did not find support for the hypothesis relating relational capability to international performance; it is perhaps not all too surprising that relation between trust and international performance was not supported. However, the lack of a significant direct relationship between trust and international performance should not trivialize the role of trust-building in inter-organisational partnerships. Trust may have other consequences, such as efficiency and longevity of the partnership, which were not explicitly considered in this study.

8. Limitations and future research directions

As with any research, certain limitations must be noted. First, the external validity of this study may be limited to the type of firm under investigation. This single context is, however, considered appropriate to control for industry effects. This study is a cross-sectional one and a longitudinal approach would appear more desirable to take account of patterns over a longer period of time and could also incorporate issues such as tie decay, tie obsolescence and utility life cycle as proposed by Prashantham and Dhanaraj (2010). In particular, in assessing resources and international performance, there is some empirical evidence to suggest that the impact of firm's resource-base on international performance will take 2-3 years to materialise (Schrader, 2001; Westhead et al., 2001).

This study developed and empirically tested new measures of the networking capability construct and could be considered an exploratory study in this regard. Both exploratory factor analysis and confirmatory factor analysis were used in analysing the results of this study. As outlined in table 2 the values for the Composite Reliability ranged from 0.65 to 0.88, which exceeds Bagozzi and Yi's (1988) recommended minimum level of 0.60. In terms of Average Variance Extracted (AVE), all scores are below the 0.50 guideline and range from 0.25 and 0.49. The low AVE on strong and weak ties should be examined in the context of the use of foreign entry mode as a way of operationalizing the construct and as Ping (2007) suggests - a new measure in a new model tested for the first time. Ping (2009) argues that if AVE of the resulting measure is within a few points of 'acceptable' (0.50), this may not always be 'fatal' to publishing a model test. Experience suggests that not all reviewers accept AVE as 'the' measure of convergent validity, some prefer reliability. Thus, if a latent variables is reliable (all constructs in this study exceed the 0.60 threshold for composite reliability), that may be a sufficient demonstration of convergent validity. In addition, the logic for possibly ignoring low AVE might be that many 'interesting' theoretical model-testing studies involve a 'first-time' model, and an initial model test, that together should be viewed as largely 'exploratory'. This 'first test' usually uses new measures in a new model tested for the first time, and insisting that the new measures be 'perfect' may be inappropriate because new knowledge would go unpublished until a 'perfect' study is attained (Ping 2009). A replication study using these scale items is strongly recommended to address this concern.

In order to address the issue of inter-subjectiveness in measuring performance, De Vries (2010) recommend using a mixed method in which performance indicators are regressed against policy and contextual factors that theoretically determine the level of the performance. This results in a predicted value of performance that can be compared with actual performance. When the difference is positive — actual performance is better than predicted performance on the basis of contextual factors — the organization is over performing and there might be a best practice within this context. An intensive case study should subsequently shed more light on the specifics in the case at hand. It might be that the policy or strategy is very effective, but also other explanations are possible.

This study examined the network characteristics and international performance of HTSMEs only. This study did not capture the role of large businesses in the sector (e.g. mobile operators or flagship firms) who, in a lot of cases, are the main customers of these SMEs. In fact, Loane and Bell (2009) acknowledge that the role played by a firm's clients in supplying resources, including knowledge, has been under investigated, particularly from an international entrepreneurship stance. The role of regulators, (e.g. ComReg), government agencies or other bodies that have control over the infrastructure, networks such as 3 G and 4G, awarding licences, contracts and spectrum allocation was also not captured. Decisions and actions taken at this level in the industry (for example, awarding of a mobile license, or privatising telecoms in some jurisdictions) could have far reaching affects for a HTSMEs' domestic as well as international business activities.

The study measured the direct effects of network characteristics on international performance; future research could consider incorporating control variables such as number of partners, importance of partners or destination of exports. The final export

destination exports modifies the set of determinants of export as export performance is multifaceted, and because the specific target export markets require unique range of resources and capabilities (Lefebvre et al., 1998). Ujjual (2009) found that the difference in the relative importance of network intensity on export performance facilitated a new insight on the effective network pattern influencing high tech exports.

9. Conclusion

The findings in this research may not be all too surprising when they are taken together. Firstly, that relational capability was found to be negatively associated may be partly explained by a possible lock in effect in their strong tie networks. Secondly, previous research has indicated that the greater the degree of interdependence between firms, the greater will be the need for trust. As the level of interdependence between firms in this research is not prominent, the necessity for trust is questionable. Research also shows that trust is a pre-requisite for, among other things, learning and information sharing. Therefore, these results highlight the existence of different types of networks with a range of possible outcomes. The findings also imply that the effects of networks are contingent: they can present both strengths and constraints to firms. For example, firms operating in a rapidly changing environment will achieve competitive advantage through different forms of relational and structural embeddedness from firms in a stable environment.

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