

A Network Perspective on International Business: Evidence from SMEs in the Telecommunications Sector in Ireland

By

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ABSTRACT

Research on business networks to date has focused on antecedents of network formation and relationships or relational content among firms rather than outcomes or consequences of such relationships and networks. Several researchers have thus suggested that there is an increasing need for business research to shift a focus from traditional dyadic relationships to a larger business context of network relationships in order to understand firms' behaviour and performance.

Small firms are the focus of this study as they are a key economic sector in Ireland. SMEs constitute 97% of enterprises and contribute to the flexibility and resilience of the economy as well being active in international markets. This study draws on research from SMEs in the telecommunications and internet sectors in Ireland. Although there is no single agreed definition of High Tech SMEs (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.

The research question for this study was to investigate how network theory contributes to our understanding of the internationalisation process of SMEs and to measure the effect of network capability on performance in international trade. The specific focus was on performance in international trade as opposed to the actual process of internationalisation. The dependent variable therefore was performance as measured through conventional means such as market, financial and customer satisfaction performance. The independent variables include factors that make up a firms network capability and comprise network characteristics, network operation and network resources.

The specific objectives of this research were: to offer new insights into the international market development activities through application of a network theory perspective; to gain a deeper understanding of networking capability; and to determine the impact of networking capability on the international performance of SME's.

During the mail survey a useable response rate of 33.64 % (154 firms) was obtained. Nine 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. Similarly, network coordination and human capital resources were found to be positively and significantly associated with international performance. Strong ties, trust, network initiation and synergy sensitive resources were all positively associated with international performance, but non-significant. Weak ties, relational capability, network learning and information sharing were negatively associated with international performance.

Major contributions of this study includes providing evidence of a collaboration-performance relationship for the international business literature, contributions to the dynamic capabilities, trust and international entrepreneurship literature, as well as advancing a re-conceptualised model of network internationalisation.

DECLARATION OF ORIGINALITY

No portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

I declare that the thesis embodies the results of my own work. Following normal academic conventions, I have made due acknowledgement of the work of others. The work has been completed within the specified word limit with 97,064 words excluding references and appendices.

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Date: _____

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LIST OF ABBREVIATIONS

2G	Second Generation Mobile Telephony (GSM)
3G	Third Generation Mobile Telephony (UMTS)
4G	Fourth Generation Mobile Telephony (to date unnamed protocol)
AGFI	Adjusted Goodness of Fit Index
AT&T	American Telephone and Telegraph
AVE	Average Variance Extracted
BSC	Balanced Scorecard
CDMA	Code Division Multiple Access
CEO	Chief Executive Officer
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CNN	Cable News Network
ComReg	Commission for Communications Regulation
CR	Construct Reliability
CSO	Central Statistics Office
ECVI	Expected Cross Validation Index
EFA	Exploratory Factor Analysis
ERAU	Electronic Register of Authorised Undertakings
ESPN	Entertainment and Sports Programming Network
EU	European Union
GFI	Goodness of Fit Index
GSM	Global System for Mobile communications
GSP	Global Strategic Partner
HSDPA	High Speed Downlink Packet Access
HTSME	High Tech Small and Medium Sized Enterprise
ICC	Inter -organisational Collaborative Capacity
IEA	Irish Exporters Association
IFI	Incremental Fit Index
IJV	International Joint Venture
ISP	Internet Service Provider
IT	Information Technology
KBV	Knowledge Based View
LCD	Liquid Crystal Display
LTE	Long Term Evolution
MNE	Multinational Enterprise
MNO	Mobile Network Operator
NACE code	pan-European classification system to groups organisations according to their business activities
NCC	National Competitiveness Council
NESC	National Economic and Social Council
NNFI	Non-Normed Fit Index
OECD	Organisation for Economic Co-operation and Development
OMA	Open Mobile Alliance
PANS	Pretty Awesome New Services
PDC	Personal Digital Cellular
PLS	Partial Least Squares
POTS	Plain Old Telephone Services

PR	Public Relations
R & D	Research and Development
RBV	Resource-Based View
RMR	Root Mean Square Residual
RMSEA	Root Mean Square Error of Approximation
SEM	Structural Equations Modeling
SIC	Standard Industry Classification
SME	Small- and Medium-sized Enterprise
SMS	Short Message Service
TCA	Transactional Cost Analysis
TDM	Tailored Design Method
TLI	Tucker and Lewis Index
TV	Television
UMTS	Universal Mobile Telecommunications System
VoIP	Voice over Internet Protocol (Internet telephony)

CHAPTER ONE - INTRODUCTION

1.0 INTRODUCTION

This chapter begins by discussing the scope and the rationale for this research study. The research objectives and questions are then enumerated and the contribution of the study is outlined. Finally, the structure of the thesis is summarised and a figure is presented to provide an overview of each stage of the study.

1.1 SCOPE OF THE RESEARCH

Small firms are the focus of this study as they are a key economic sector, currently accounting for more than 90 % of companies in the European Union (Demick & O' Reilly 2000). In Ireland, small and medium sized firms (SMEs) constitute the majority of enterprises and contribute to the flexibility and resilience of the economy as well being active in international markets. There has been much disagreement amongst researchers over the measurement unit for organisational size whether to adopt the sales volume approach or to classify organisations according to their number of employees (Czinkota & Johnston 1983; Bolton Committee 1971).

For the purpose of this study the European Commission (2005) and Crick and Spence (2005) definitions for SMEs and HTSMEs will be used. The European Commission (2005) provided a definition of what a micro, small and medium sized organisation is regarding number of employees, annual turnover or annual balance sheet. Micro sized organisations are classified as those organisations with fewer than 10 employees, an annual turnover of less than €2 million or an annual balance sheet total of less than €2 million. A small sized organisation is defined as an organisation with at least 10 employees and no more than 50 employees, an annual turnover of less than €10 million or an annual balance sheet total of less than €10 million. A medium sized organisation is defined having at least 50 but fewer than 250 persons employed, an annual turnover of less than €50 million or an annual balance sheet total of less than €43 million. A large organisation is defined as having at least 250 people

employed (European Commission 2005). The definition employed in this research relates only to employee numbers as a means of classifying organisational size due to the fact that financial and turnover data is not in the public domain, thus access to this data would be difficult to obtain. Additionally, employee number data is available through a number of sampling frame databases.

SMEs are the dominant organisational type in Ireland and across Europe. As can be seen in Table 1.1, in Ireland, in 2004, small businesses accounted for almost 82 % of all industrial enterprises. Over 97 % of businesses operating in Ireland today are classified as ‘small’ given that they employ fewer than 50 people. There are approximately a quarter of a million small businesses in Ireland, employing 777,000 people, more than half of the total private sector, non-agricultural workforce (CSO 2007), whereas in 2006 small and medium organisations represented 99.8 % of all EU organisations in the non-financial business economy in 2006, employing two thirds of the workforce (67.4 %) and generating 57.7 % of total value added (Eurostat 2006).

Table 1.1: Breakdown of Organisations by size in Ireland and EU

Organisational Type	Ireland	EU
Micro 1 – 9 Employees	71.4%	91%
Small 10 – 49 Employees	13.9%	7%
Medium 50 – 249 Employees	14.7%*	<1%
Large > 250 Employees		<1%
*Expressed as an aggregate figure from CSO (2007)		

Source: CSO (2007); Eurostat (2006)

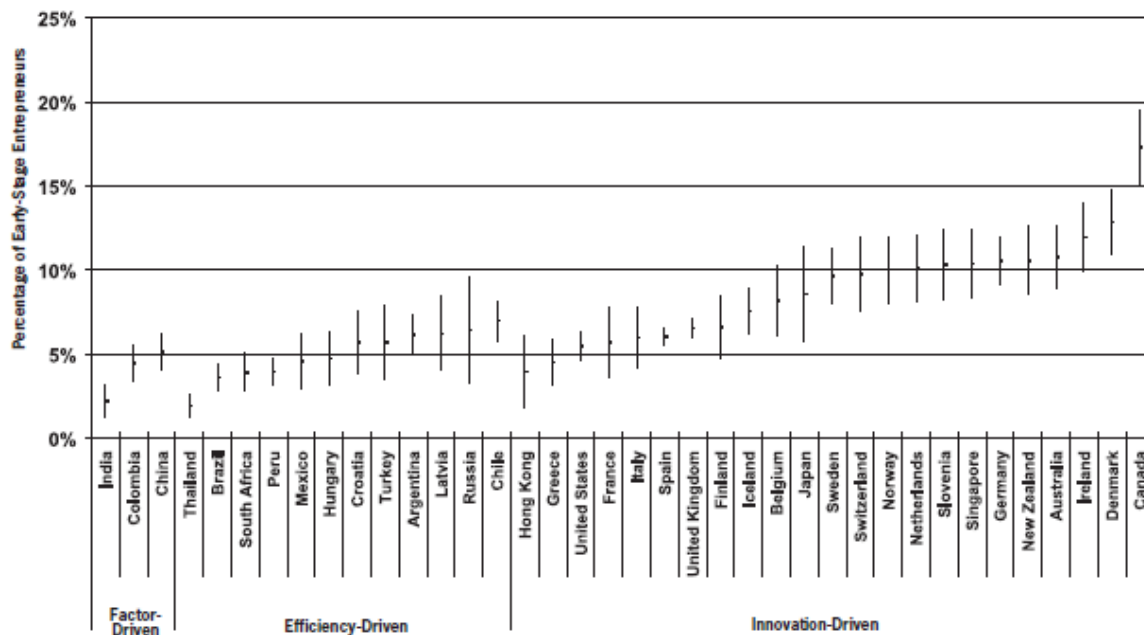
Although there is no single agreed definition of High Tech SMEs (HTSMEs), these are generally characterised by small and medium-sized firms with advanced knowledge and

capabilities in technology, an educated workforce, and the ability to adapt quickly to fast changing environments (Crick & 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 & Karagozolu 1997; Lindqvist 1997; Baldwin & Gellatly 1998; Karagozoglu & Lindell 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. Specialization requires international expansion, if the firm aims to achieve sales growth. Furthermore, firms are facing high R&D costs, which often come before any sales are made. In order to survive firms must catch the growth track quickly to support these initial expenses. If the company is to take full advantage of the market potential this means simultaneous penetration to all markets (Saarenketo et al. 2004). Global pressures are not, of course, limited only to high-tech industries. Advances in communication technologies (e.g. Internet), cheaper and more rapid transportation and other innovations accelerate the push towards genuine global markets for multitude of firms (Porter 1986) also within more traditional industries. In dynamic high-tech markets, one of the factors influencing high performance appears to be speed of internationalisation. 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 & Martin 2000).

The internationalization process of small and specialized high-technology firms is often different from that of more mature industries (Saarenketo et al. 2004). Recent reports (Fan & Phan 2007) show that these firms are growing and expanding their operations to other countries at a relatively faster pace than others. Furthermore, their number is growing, and their growth has an important impact on world economy (Coviello & Munro 1995; Lasch et al. 2007).

The Global Entrepreneurship Monitor (GEM) (2008) presented percentages for the selected set of GEM 2008 countries in terms of the share of early-stage entrepreneurs who are active

in technology sectors according to the OECD (2004) definition. Figure 1.1 confirms that countries in the innovation-driven stage have higher shares of technology-related early-stage entrepreneurial activity. Also here, some European countries tend to score high, although some can also be found at the lower end of the ranking of innovation-driven economies on this measure. Chile, Russia, and Latvia score high among efficiency-driven economies. India, Thailand, and Brazil have the lowest scores and Ireland scores relatively high on the innovation driven measure.



Source: GEM Report (2008, p.33)

Figure 1.1 Percentage of Early-Stage Entrepreneurial Activity in Technology Sector 2002-2008.

In relation to networks and SMEs in Ireland, Forfás (2004) reported that in the future, business networks will increasingly facilitate knowledge transfer, disseminate market knowledge, foster innovation, inform the research agenda and identify infrastructure needs specific to sectoral development, therefore, playing a significant role in supporting the growth of internationally-traded activities and in enhancing the growth potential of the companies involved. Intertrade Ireland (2006) conducted a review of networks and business clusters on

the island of Ireland, and found a total of 110 networks and clusters across the island - with participation drawn from close to 10,000 firms, 93 %of which were small or medium-sized enterprises.

Coviello and Mc Auley (1999) highlight that the internationalisation literature tends to rely on the large multinational firm as the traditional unit of analysis in spite of the fact that SMEs are active in international markets. This emphasis on larger firms is of additional concern given the argument that smaller firms differ from larger firms in terms of their managerial style, independence, ownership, and scale/scope of operations (Schollhammer & Kuriloff 1979; O' Farrell & Hitchins 1988), with structures that are less rigid, sophisticated, and complex than those in larger firms (Julien 1993; Carrier 1994; Carson et al. 1995).

In the context of internationalisation, Calof (1994) stress that size is not necessarily a barrier to internationalisation, and SMEs have also been found to find unique ways to overcome their 'smallness' (Bonaccorsi 1992; Gomes-Casseres 1997). Nevertheless, it is also argued that SMEs face internal constraints to international growth such as limited capital, management, time, experience, and information resources (Buckley 1989). Furthermore, external barriers may be encountered in the form of entrenched firms or the government (Acs et al. 1997). Coviello and McAuley (1999) suggest that internationalisation of SMEs would be different from that of larger firms due to: 1) firm characteristics or 2) behaviours used to overcome size related challenges.

Madsen and Servais (1997) recommend separating the analysis of the internationalisation process of small firms from processes of large firms, as it may be difficult to generalise patterns and recommendations across both groups of firms because the impact of the founder will decrease as the size of the firm increases. Empirical evidence from Czinkota (1982) in the US and Pointon (1977) in the UK, suggests that approximately 20 %of firms that are large in size tend, in line with the Pareto effect, to contribute in the region of 80 %of export sales. This reinforces the need for empirical work to be undertaken to investigate the export activities of SMEs.

1.2 REASONS FOR SELECTING THE TELECOMMUNICATIONS INDUSTRY

This study draws on research from SMEs in the telecommunications and internet sectors in Ireland. Appendix 9 provides information on the industry profile. This industry was selected as the industry for this study for the following reasons:

1.2.1 Telecoms as a global industry

Firstly, the industry can be characterised as a global industry. Fahy (2001) defined a global task environment or industry as any business arena exhibiting above average levels of geographic scope, market convergence and cross-national interdependencies. Global industries are characterised by the presence of global customers with universal needs, the presence of global competitors, and pressures for cost reduction, investment intensity and technological intensity (Prahalad & Doz 1987). Evidence of each of these features can be found in the telecommunications industry. Cross-border telephony connections have been an element of wire-line operators' service offers for decades (Henten 2001; Einhorn 2002). However, 'real' internationalisation or globalisation of wire-line Telcos did not emerge until the 1980s when carriers began to buy equity stakes in operators outside their home countries and to create new ventures abroad (Johansson 1994). Prerequisites for these actions were the privatization of state-owned operators (incumbents) and the opening of wire-line markets to competition (Gerpott 1998).

Starting in the early 1990s, globalisation of telecommunications received an additional impetus with the licensing of digital mobile networks in numerous countries with most of these networks using the Global System for Mobile Communication (GSM) standard (Gerpott & Jakopin 2005). As a result, privately owned corporations gained opportunities to obtain licenses for these new networks and to compete against former incumbents in the mobile communications market segment (Sarkar et al. 1999; Stienstra et al. 2004). Specifically, established mobile network operators (MNO) with the necessary financial backing acquired mobile spectrum licenses in foreign markets to set up new networks either on their own or typically with the help of local partners. Since international expansion is likely to require considerable human, technical, and financial resources on the one hand with the promise of additional revenues from customers not served in the past on the other, it constitutes a growth strategy with the potential for substantial impacts on firm performance (Capar & Kotabe 2003).

Specifically in Ireland, mobile telecommunications is currently divided between four main network operators. Vodafone, O2, 3 and Meteor all hold 3G licenses. The current driver for these companies is towards sustainable technology and what is termed Long Term Evolution (LTE) technology. See Table 1.2.

Table 1.2: Profile of Mobile Network Operators on Ireland

Vodafone:	Is the largest operator in Ireland, with a 49% share of the market, is part of a global group that operate in 27 countries across 5 continents, and have a total of 179 million customers worldwide.
O2:	Have 38% of the market, have fixed/mobile businesses in Germany, UK, Czech Republic and Isle of Man, and were recently taken over by Telefonica (Jan 2006) who operate in 40 countries and have in excess of 140 million customers
Meteor:	Have 12% of the Market, are owned by the incumbent fixed-line operator Eircom, operate solely in Ireland and currently have 500,000 customers.
3 Mobile:	Part of the Hutchison Whampoa group, are the newest entrant in the Irish market, launching in July 2005, currently have a 1% share of the Market, have businesses in 8 countries and 10 million customers.

Source: Mobile World, 2006

1.2.2 Complex Value Network

The second reason for selecting the telecommunications industry is the fact that the value network of the telecommunications industry is a unique and very complex mechanism (Hopkins & Fynes 2006). When considering mobile telephony, in addition to any existing hardware and software manufacturers, and their subsequent supplier bases, the telecommunications domain boasts a network of content providers, publishers, application providers, carriers, network operators, regulators, service providers and portal providers, sitting between the original equipment manufacturer and its users. Customers are commonly billed for the services they use via their network operator, who can therefore be said to *own* the customer base, and that network operator in turn utilises methods in order to retain that customer and prevent them from ‘switching.’ The customers, in addition to making calls and sending SMS text messages, can access an array of content and services hosted, and sometimes managed, by that network operator; ranging from downloadable ringtones, games and news bulletins to live streaming television, cinema tickets, and music purchases. These services are commonly sold to the network operator by a host of content developers and preferred publishers. However, the there is no longer a simple relationship between customer and monopoly telephony supplier, there are now service providers of all descriptions, from TV cable companies to internet cafes (Eastwood 2006). With new and emerging technologies

coming on the market at a fast rate, and an increase in new handset functionality now available and in development, the need to collaborate and pool resources becomes more apparent. Similar to the digital media component of the industry, the highly dynamic nature of the sector means that it is experiencing rapid advances as emerging technologies begin to impact and create an even wider array of opportunities for the commercialisation of novel offerings (Loane et al. 2009).

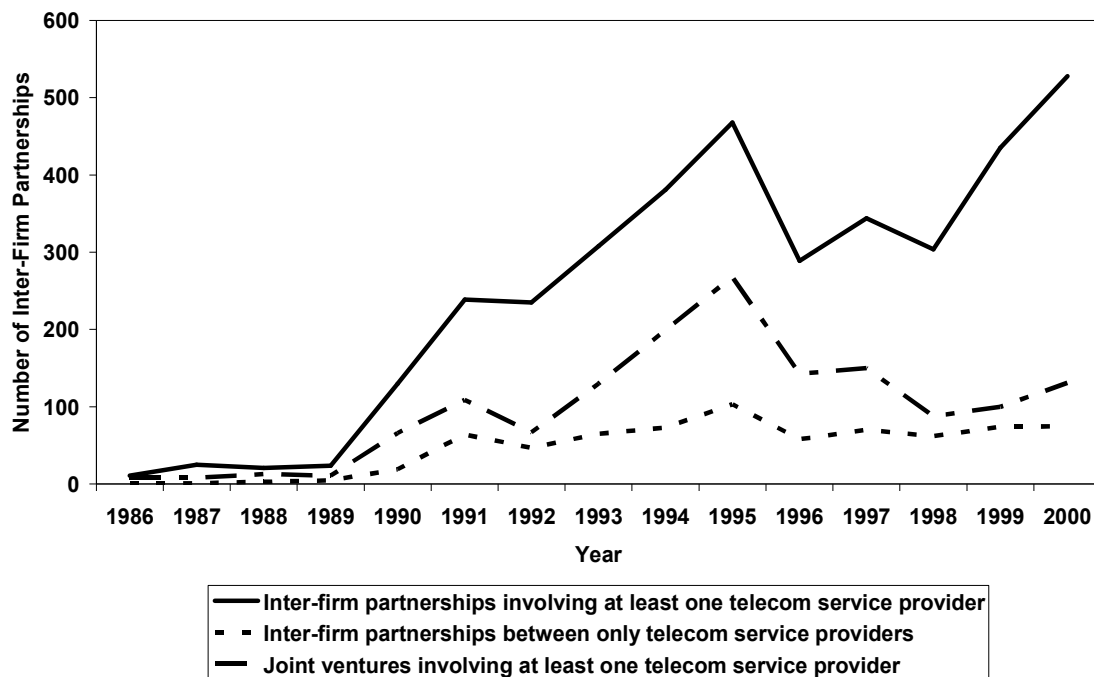
1.2.3 Convergence in the Industry

Thirdly, the telecommunications industry was selected due to the restructuring of the telecommunications industry since the 1980s, when the virtues of the separation of network provision and service provision as a stimulus to competition was debated in the industrial economics literature and policy circles (Beesley & Littlechild 1983). Despite the retention of the vertically integrated structure, internal restructuring has seen a convergence towards a model that separated the provision of services from the running of the network infrastructure. This restructuring arguably reflected broader changes in the nature of the sector, competition and technology in terms of the greater convergence between the telecommunications and IT sectors (Mac Kenzie 2008).

1.2.4 Level of Inter-firm Network Activity

Fourthly, the telecommunications industry was selected as the restructuring mentioned above has led to an increase in external sourcing in the industry, thereby opening up opportunities for SMEs and in particular, high tech SMEs as referred to in Chapter Two (see figure 1.2). Firms operating in these convergent industries need to obtain, integrate, and reconfigure resources and capabilities in order to adjust to the new environment (Kranenburg & Hagedoorn 2007). They are generally confronted with the fact that existing resources and capabilities are no longer sufficient to deal with the new demands and requirements (Oh 1996). In addition, firms operating in the fast changing telecommunications network environment also need to build a large user base of new activities and new businesses as quickly as possible to create or to sustain competitive advantages. Firms become more attractive to customers and businesses when they are able to deliver a critical mass of connected customers and content providers (Chan-Olmsted & Jamison 2001; Pennings et al. 2005). Subcontracting and outsourcing have been associated with the decentralization of the organisation to a new organisational form often conceptualized as the network enterprise (Castells 2000), the boundaryless organisation (Ashkenas et al. 1995), or the post-

bureaucratic organisation (Heydebrand 1989). The Managed Services model have developed significantly in Ireland over the last 15 years in response to this trend in outsourcing and the market in Ireland is now valued at €765 million with a predicted growth rate of 7% in 2008 (Corrigan 2008). Managed Services cover the end-to end technology stack, from network infrastructure right through to business applications and have emerged as businesses that have realised that outsourcing non-core business and IT activities enables them to focus on their strategic activities, on their customers, keeping their costs low and keeping ahead of competition. Gilsenan (2007) recommends that companies considering managed services should seek a business partner rather than just a transactional service provider. Companies that opt for managed services are effectively entering into a long term partnership with their service provider as they are handing over responsibility for mission critical services to their business and so trust is critical to this arrangement.



Source: Kranenburg et al. (2008, p.6)

Figure 1.2: Number of Inter-Firm partnerships involving at least one telecommunications service provider during period 1986-2000.

1.2.5 Level of Export Activity

Fifthly, the reason why the telecommunications industry was selected for this study is that export activity for the sector in Ireland remains strong, despite prevailing economic conditions such as the strong euro impact. Figures from the Irish Exporters Association (IEA) for the 2007 show that exports of telecom equipment grew by 2% on the previous year and that computer equipment exports fell by 9% over the same period. On service exports, the category computer services grew by 11% on the previous year and business services grew by 21%. 'Business Services' exporters include: legal, accounting, management consulting, P.R., advertising and marketing, R and D and other professional and technical services (IEA 2007).

Commentary on Irish exports generally does not make a distinction between exports by foreign-owned and indigenous firms. What is striking about Ireland is that foreign-owned firms, mainly American, remain responsible for about 90 % of total exports. Of the residual 10 per cent, about 53 % goes to the traditional market - the UK (Forfás 2008). For example, chemical exports from mainly American firms in Ireland, increased by 6 % in the first two months of 2009, while the value of all other exports actually fell by 14 % (Hennigan 2009). Ireland remains overwhelmingly dependent on the US but it could be argued that in the modern world, company origin does not matter. For example, Finnish mobile giant Nokia, with 89 % of its shares held outside Finland illustrates the importance for a small economy of building scalable world class companies. At the end of 2008, Finland led Nokia's country jobs at 23,320 from a total of 125,829. The firm had almost doubled its total payroll since 2006 through expansion in China and India but the home country remains the key part of its operation. Some 300 Finnish companies are direct first-tier suppliers to Nokia and a big proportion of the Finnish employees, work in research and development (Hennigan 2009)

The complexity of the IT environment is growing and the lines between application and networks are becoming blurred. While the related IT skills are increasingly hard to find in Ireland, these technologies make it easier to operate and manage IT systems remotely and benefit from skilled resources drawn from global locations (Corrigan 2008). Conversely, Irish companies can attract overseas business with this remote management capability.

1.3 RATIONALE FOR THE STUDY

Research on business networks to date has focused on antecedents of network formation and relationships or relational content among firms rather than outcomes or consequences of such relationships and networks (Werner 2002; Kapasuwan 2006). Several researchers have thus suggested that there is an increasing need for business research to shift a focus from traditional dyadic relationships to a larger business context of network relationships in order to understand firms' behaviour and performance (Achrol 1997; Rowley 1997; Gulati 1998). Research specifically in strategic management has addressed the issues of why firms form networks and alliances (Gulati 1999; Gulati & Gargiulo 1999; Ahuja 2000), and has explored relational concepts such as mutual dependence, trust and commitment (Ganesan 1994; Morgan & Hunt 1994; Dyer & Chu 2000; Griffith et al. 2000). Yet, there is still an urgent need for academic research to systematically investigate the effect of networks on firm performance (Gulati et al. 2000). This point is further highlighted by Werner (2002), who reviewed international management research in top management journals and found that the impact of foreign partners on firm performance is a potential research area not frequently addressed.

Although the arguments in favour of networking appear compelling and most of the existing literature is premised on the belief that networking is beneficial (Havnes & Senneseth 2001), there has been little empirical evidence to date of an association between firm performance and the owner's use of networks, particularly for established businesses. Indeed, Aldrich and Reese (1993) were unable to find any evidence linking an entrepreneur's use of networks to business survival or performance and, similarly, Cooper et al (1994) were unable to find a significant relationship between the use of professional advisors and firm survival. Further, Zhao and Aram (1995) argued that there is a cost to networking (in terms of the owner's time and possibly also financial) and, therefore, entrepreneurs need to be strategic in their use of networks by balancing the potential benefits of networking against the costs.

On the relationship between internationalisation and performance, Bausch and Krist (2007) argue that this is context dependent and as a consequence investigators should not be searching for internationalisation-performance generalisations or principles, but rather focusing on the identification of moderators or drivers that produce differential internationalisation-performance effects. As observed in the literature review,

internationalising SMEs overcome their resource constraints through network relationships. However, networking activity has not been conceptualised and measured as a competitive capability that contributes to SME internationalisation (Loxton & Weerawardena 2006). Still, to date, detailed studies of what actually constitutes a networking capability are almost non-existent (Kale et al. 2002; Walter et al. 2006). This study aims to address a major gap in the extant literature by examining the impact of network effects on firm performance in international markets. To date most of the attention has been on the nature and structure of networks rather than how these in turn impact on the performance levels of individual network members.

1.4 RESEARCH OBJECTIVES AND QUESTIONS

The research question for this study is to investigate how network theory contributes to our understanding of the internationalisation process of SMEs and to measure the effect of network capability on performance in international trade¹. The specific focus is on performance in international trade as opposed to the actual process of internationalisation. The dependent variable therefore is performance as measured through conventional means such as market, financial and customer satisfaction performance. The independent variables include factors that make up a firms network capability and comprise network characteristics, network operation and network resources.

1.4.1 Objectives of the Research

The specific objectives of this research are:

- ◆ To offer new insights into the international market development activities through application of a network theory perspective;
- ◆ To gain a deeper understanding of networking capability;
- ◆ To determine the impact of networking capability on the international performance of SMEs;

The specific research questions that arise from these objectives are:

- What insights does network theory offer in relation to SME internationalisation?

¹ For the purpose of this research performance in international trade is also referred to throughout this thesis as international performance and export performance and captures the firm's level of international market performance based on market place performance, financial performance and levels of customer satisfaction.

- What constitutes networking capability at the level of the firm?
- How is networking capability conceptualised and measured?
- What is the impact of networking capability on a firm's performance in international trade?

1.5 CONTRIBUTION OF THE STUDY

This study makes a solid contribution to the international business literature by providing evidence of a collaboration-performance relationship. This addresses the concerns of Kapasuwan (2006), who argues that there is still a gap in the literature in the linkages between networks and firms performance. Measures of networking capability are developed and validated in the context of international business, which is only one of a very few studies to do so (Loxton & Weerawardena 2006). The measure in this study, based upon psychometric properties, was designed to capture nine composite dimensions in a reflective higher-order factor model: strong/weak ties, relational capability, trust, initiation, coordination, learning, human capital resources, synergy sensitive resources and information sharing. Overall, the current study has provided a combination of theoretical implications for the internationalisation literature and for the measurement of empirical constructs. The findings from both the measurement model and the structural models contribute to the expanding body of SME internationalisation and network capability literature.

A second contribution arises from integrating the idea of dynamic capability extended from the resource based view (RBV), which takes into account the development of external contacts (networks) of a firm as one of the important means for new resources and capabilities to be acquired and integrated into its resource base (Teece et al. 1997; Eisenhardt & Martin 2000). With regard to human capital resources, Manolova et al (2002) identified personal factors as a common theme in their research on the internationalisation of small firms, but no study (with the exception of Ruzzier et al. 2007) gave much attention to the relative importance of the various dimensions of human capital embodied in the entrepreneur as they relate to the internationalisation of SMEs. Previous born global research (e.g. Fan & Phan 2007) has failed to specifically examine the role of networking activities in international market entry. Similarly, although the literature assigns a prominent role to networking activities in small firm internationalisation it has failed to conceptualise networking activity

as a dynamic capability (Sullivan-Mort & Weerawardena 2006). Past research has also failed to examine networking activity in a unifying framework incorporating antecedent factors and performance outcomes. This research addresses this specific gap in the literature.

This research also addresses the concerns of Chetty and Agndal (2007) and Jones and Young (2009) who feel that although some researchers have focused on the firm's network positions and connections and how these affect internationalisation (Axelsson & Johanson 1992), mode selection has been neglected. This study explicitly addresses this gap in previous studies as it uses mode to entry to operationalise the tie strength construct when measuring the elements of network characteristics. An additional contribution to the international entrepreneurship literature is provided by advancing a re-conceptualised model of network internationalisation.

Extant research on firm capabilities has focused primarily on the link between capabilities and performance-related outcomes (Lieberman et al. 1990; Clark & Fujimoto 1991; Henderson & Cockburn 1994). However, far less research attention has been paid to the sources of firm capabilities. The research that has been conducted in this area has focused on sources internal to the firm. In contrast, Mc Evily and Zaheer (1999) maintain that there are important external sources of capabilities that firms draw upon to varying degrees (Galaskiewicz & Zaheer 1999). They propose that these 'network resources' (Gulati 1999) enable and constrain firms' abilities to acquire competitive capabilities through differential exposure to information and opportunities. This study focuses on the human capital, synergy sensitive resource and information sharing aspect of these network resources and provides additional insight into the possible outcomes of deploying these resources.

In relation to the contributions 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." This study measured trust independent of 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. Further, these findings provide new insights into the significance of the operating environment in which international exchange is embedded. As Zaheer and Zaheer (2006) note, there is still only the barest appreciation of the role of trust in cross-border relationships.

The growing focus on the dynamics of international exchange relationships is evident in an increasing number of studies based on relationship marketing and network theory approaches (Ellis 2000). In terms of the former, much of the literature to date has focused on relationship development (Ford & Rosson 1982; Katsikeas & Piercy 1990; Leonidou 1999), while relationship initiation has rarely been studied (Andersen 1996; Dwyer et al. 1987; Wilson & Moller 1991; Heide & Miner 1992). Ellis (2000) contends that despite recent advances in understanding the dynamics of international exchange relationships, little conceptual progress has been made in the critical area of relationship initiation, an area that is specifically addressed in this study.

A challenge for survey research on small and entrepreneurial firm internationalisation according to Jones (2001) is to accommodate the diversity of internationalisation behaviour in the research design, and to devise appropriate means of analysis in order to take full advantage of the richness of data generated. Jones (2001) further recommends that future survey research includes as wide a range of internationalisation possibilities as possible and should be examined within a narrowly defined, relatively heterogeneous sample of firms from an industry or an industrial or geographical cluster. This study addresses these specific concerns as it investigates the international behaviour in terms of performance outcomes of SMEs in the telecommunications industry.

From a managerial standpoint, the 'one-size-fits-all' analysis of networks is inadequate to capture and explain their specific effects on international performance. This thesis provides clear evidence of the possible gap between the conventional wisdom in relation to the benefits of networks, and the actual effects of networks. The key message from the findings is that collaboration provides advantages and disadvantages and is, therefore optimal under the right circumstances.

1.6 THE STRUCTURE OF THE THESIS

This study is divided into eight chapters (as outlined in figure 1.3), first of which is the introduction. The remaining seven chapters are organised as follows:

Chapter 2 presents the theoretical background in the field of international business in order to contextualise the domain of international business for this study. This chapter looks specifically at the issue of internationalisation in the context of SMEs. It reviews the extant

literature on internationalisation, followed by a discussion of performance in international business. The chapter concludes with a review of the shortcomings of the international literature for SMEs and a brief discussion as to why network literature warrants consideration

Chapter 3 presents the theoretical background in the field of network theory. This chapter begins by reviewing literature on organisational theory and design in order to reveal the origins of networks as an organisational form. This is followed by a discussion of the theoretical perspectives on network organisations. Literature on network features, definitions, development, benefits, problems and barriers to network formation is then outlined. The final sections of this chapter deal specifically with networks in the context of SMEs, internationalisation, performance and capability building. The chapter concludes with an overview of how network theory helps inform international business theory.

Based on the theoretical underpinnings outlined in the previous two chapters, chapter 4 develops a conceptual model of network capability related to international performance. This leads to the statement of 9 research hypotheses which will be tested in this study.

Chapter 5 focuses on the research design undertaken and the methodology employed in testing the conceptual model and the 9 research hypotheses developed in the previous chapter. Specifically, it addresses the following issues: the unit of analysis, research design, research methods for collecting data, development of the questionnaire, and administration of the survey, non response bias and methodology for data analysis.

Chapter 6 presents the results generated for the empirical investigation.

Chapter 7 examines the extent to which the results support each of the 9 hypotheses. The theoretical background on which each hypothesis was based and the findings of previous empirical studies conducted on the issue support the discussion.

Chapter 8 draws general conclusions from the research findings, and discusses the key implications for managers. The main contributions of the study are outlined, while a number of research limitations are discussed and possible directions for further research is indicated.

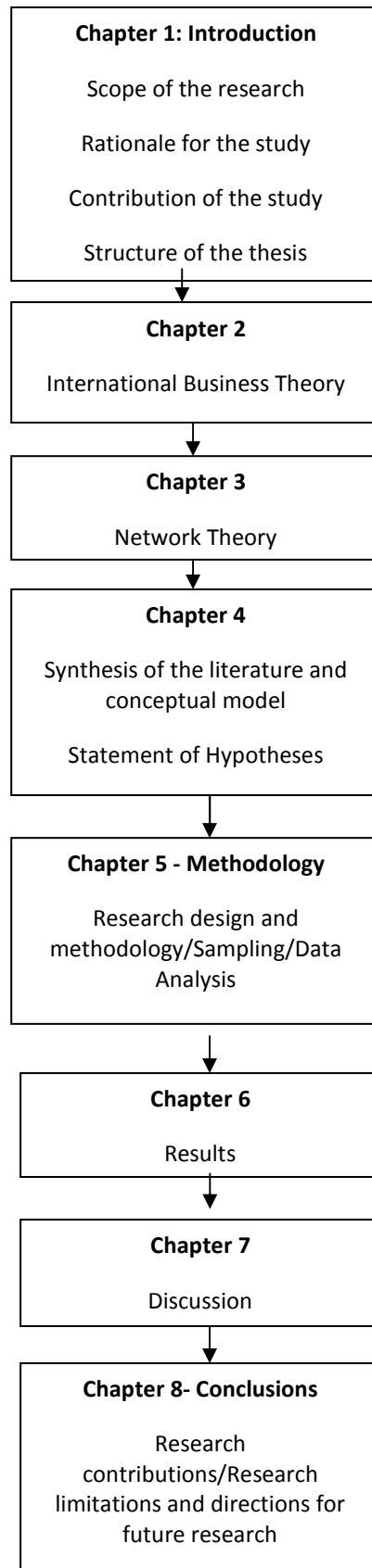


Figure 1.3: Thesis Structure

CHAPTER TWO - INTERNATIONAL BUSINESS

2.0 INTRODUCTION

This chapter begins with a review of the literature in order to contextualise the domain of international business for this study. The next section looks specifically at the issue of internationalisation in the context of SMEs. This is followed by a review of the extant literature on internationalisation, followed then by a discussion of performance in international business. The chapter concludes with a review of the shortcomings of the international literature for SMEs and an indication as to why, in this context, network literature warrants consideration.

2.1 THE DOMAIN OF INTERNATIONAL BUSINESS

Nations have traded ever since there were nations to trade. What economists term 'gains from trade' accrued before there were economists to coin the phrase (Ball & Mc Culloch 1993, p.80). The urge to trade has over the centuries been a major driver of commercial policy and domestic and political events. Empires have been created to foster trade and wars have been fought to defend trading interests.

It was in the early nineteenth century that a body of economic theory began to emerge providing a rationale for trade as an engine of economic growth. The theories in question were mercantilism, theory of absolute advantage, theory of competitive advantage, Heckscher-Ohlin theory of factor endowment and the international product life cycle (Ball & Mc Culloch 1993). The main thrust of these theories suggests that international trade occurs primarily because of relative price differences among nations. These differences stem from differences in production costs, which are the result of differences in the endowment of the factors of production and the level of efficiency at which they are utilised. However, taste differences, a demand variable, can reverse the direction of trade predicted by the theory.

International trade theory shows that nations will attain a higher level of living by specialising in goods for which they possess a comparative advantage and importing those for

which they have a comparative disadvantage. However, in reality trade restrictions hamper this free flow of goods across borders. King (1990) referred to this kind of trading as networks, but advocates that some firms that had developed a multinational structure have been obliged to give up that structure in reaction to certain other changes in industry. In a cycle that he refers to as 'the obsolescing bargain' enterprises are often compelled to shrink back when they no longer possess special competitive advantages. Advantages that are usually embodied in a special capability to mobilise capital, provide difficult managerial or technological skills, or provide access to hard – to – enter foreign markets.

Casson (1995) argued that the role of economic theory in international business studies has a well-deserved reputation for being axiomatic, abstract and that it is often irrelevant to real-world issues. Although these theories are useful for the analysis of broad issues pertaining to international trade, their value is limited insofar as they can only partially explain the export behaviour of individual business units (Cannon 1968; Wells 1977; Bilkey 1978).

Management perspectives on international business are concerned with the complexity involved in managing multinational firms and with finding solutions to managerial problems relating to international business. Fahy (2001) argued that in contrast to the economic paradigm, the management perspective does not demonstrate clear chronological stages in its development. He goes on to say that a number of themes, namely strategy, structure and process, were in evidence in the literature appearing in the 1960s and these have developed over time as the nature of international business has changed.

The main contribution of the management perspective has been recognition of environmental change. However, there is no consensus regarding the scale of environmental change and the appropriate level of organisational response to the change. Levitt (1983) and Ohmae (1985) advocated the emergence of increasingly homogenous markets worldwide. Doz (1987) and Robinson (1986) argued the opposite, while other authors adopt a middle ground, acknowledging the potential existence of global segments of homogenous demand (Kale & Sundharsham 1987; Jain 1989; Riesenbeck & Freeling 1991; Guido 1992). Suggested organisational responses have ranged from greater levels of integration and efficiency (Henzler & Rall 1986; Yip 1989) to greater organisational flexibility (Kogut 1985). Increasingly complex strategic and organisational arrangements have been proposed as the solution to the problem of how to succeed in the rapidly changing environment (Hedlund 1986).

Peng (2004) proposed that the domain of international business has two essential components: 'international' and 'business'. That is, international business is primarily (but not only) concerned with business activities that cross national boundaries ('international') and that occur at the firm level ('business') (Hill 2003). Peng (2004) agreed with Wilkins (1997, p. 32) that what research on international business must consider first and foremost is the study of enterprise: 'the international-multinational-transnational –global –business-enterprise-firm-company-corporation'. Definitions of these terms are covered in section 2.1.1.

Fundamental questions serve to highlight the issues and presumptions that differentiate a field of inquiry (Rumelt et al. 1994). Given the twin focus on 'international' and 'business' noted above, Peng (2004) argued that 'What determines the international success and failure of firms?' has always been the core question of international business as a field of inquiry. International business researchers have for decades sought to understand the source of competitive advantages possessed and developed by non-native firms in foreign markets (Hymer 1976; Zaheer, 1995; Peng 2001; Wilkins 2001). McKinley et al (1999) argued that whether a particular school of thought, as exemplified by the pursuit of a core question, gains widespread acceptance depends on its: (1) continuity, (2) novelty, and (3) scope. Peng (2004) contended that the question of 'What determines the international success and failure?' entails these three attributes.

First, this question exemplifies a great deal of *continuity*. The determinants of the flows of foreign direct investment (FDI) are contingent on how firms engaging in FDI are able to attain better performance in international markets relative to entries using non-FDI modes such as exporting and licensing (Buckley & Casson 1976, 2002). The internationalisation of firms similarly depends on whether firms can successfully develop and deploy resources and capabilities which contribute to their performance abroad (Johanson & Vahlne 1977; Peng 2001). Second, this question is sufficiently *novel* so as to engage most of the international business field characterised by a wide diversity of disciplinary backgrounds, research interests, and methodological tools. While some international business scholars may argue that they are not particularly concerned with the performance *per se* and that they may be interested in certain international business phenomena (e.g., the existence of institutions and practices such as multinational enterprises or MNEs), ultimately, the successful, long-term existence of certain phenomena carries strong performance implications in the sense that

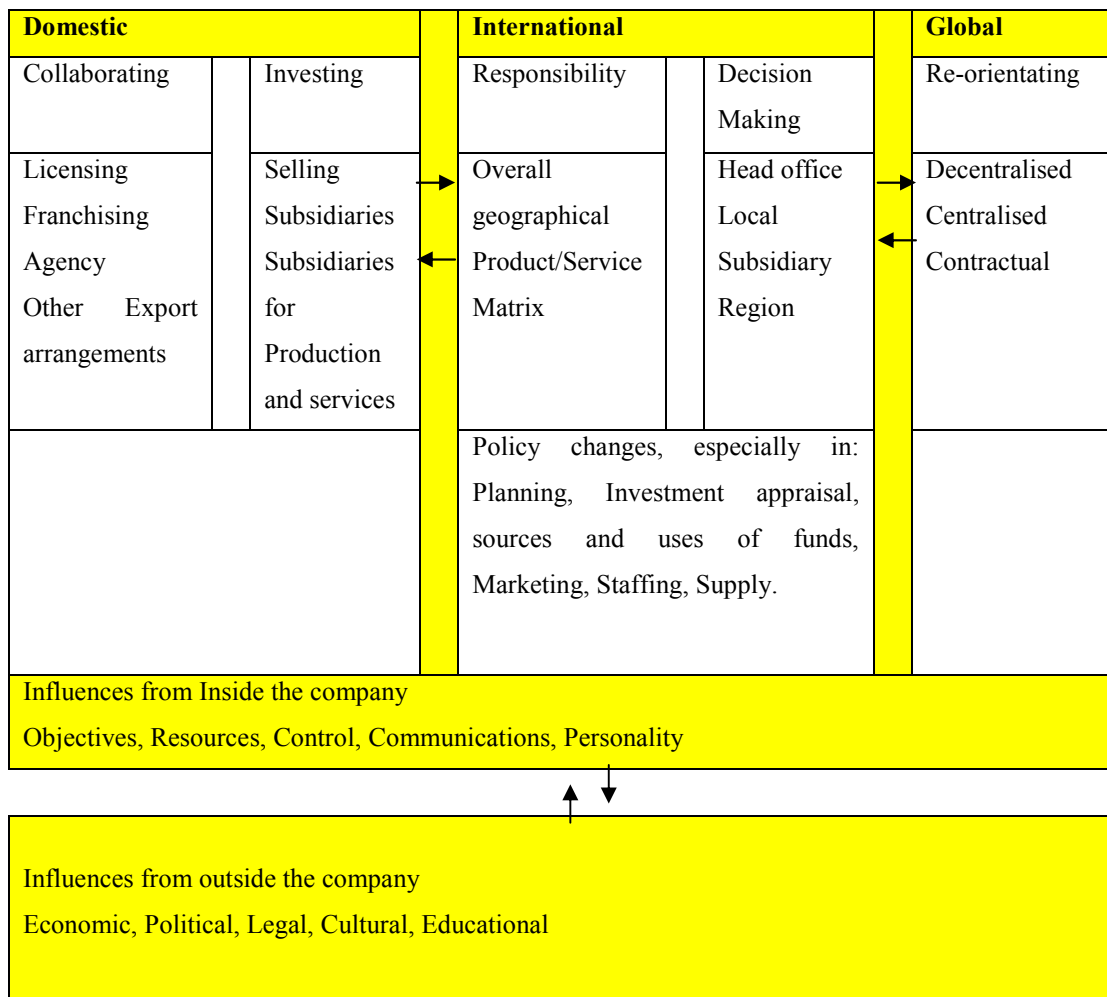
these institutions and practices out compete others. Peng (2004) further highlighted that international business fundamentally is about a *spatial* perspective on business, i.e., why and how to do business outside one's home country.

Buckley (2002) touched on the ability of international business to demarcate the boundaries separating it from other disciplines. While much has been written on whether international business should have distinct boundaries relative to other disciplines (Boddewyn 1997; Toyne 1997), Peng (2004) believed that the question on international firm performance has the potential to do that, because no other question better captures both the 'international' and 'business' aspects of international business than this question. The performance question confronts all firms, domestic and international. Furthermore, in the context of this study, Buckley and Ghauri (2004) highlighted that quantifying the complex interplay between the physical geography of international trade and the network through which trade flows is one of the fundamental objectives of international business scholarship

2.1.1 Definitions of Terms

When discussing the topic of international business, three terms are ubiquitous; multinational, international and global. What are the differences between each term? According to Brooke and Remmers (1977) the word multinational is used for any company which has investment abroad as its major activity. The foreign subsidiaries of service industries are included, but small selling subsidiaries are excluded. Brooke and Remmers (1977) do not claim that this is a satisfactory distinction, it leads to many an anomaly; but it identifies a company situation in which certain international patterns of business activity are likely to develop. The international firm is normally one that operates abroad without investment but the phrase is used more widely.

The body of knowledge on international business is summarised in Fig.2.1. This figure shows the five frameworks, which represent the different management systems that develop in companies once the first steps abroad have been taken. The progression is from domestic, to international and finally to global. This final stage is headed 'reorientating', and lists three likely systems, which may occur at once in different parts of the same firm. In connection with these methods there may or may not be a global view of the company's resources and opportunities, but on principle, there is.



The Body of Knowledge on International Business Studies, from Brooke, M.Z. and Remmers H.L. (1977), The International Firm, Pitman International, Bath: 5.

Figure 2.1: The Body of Knowledge on International Business Studies

Toyne and Nigh (1998) identified three paradigms that suggest the word international has meanings other than those traditionally adopted (Toyne & Nigh 1998; Boddewyn 1999). These three paradigms are as follows: (1) the extension paradigm; (2) the cross border management paradigm; and (3) the ‘emerging’ interaction paradigm. The first paradigm was initially described by Vernon (1964) and emphasises testing the explanatory power of culture-bound business (firm level) theories in other environments (cultural, economic, legal, and political). The questions raised by the first paradigm are primarily concerned with identifying those environmental factors that may have a significant influence on the management of an organisation’s operations when extended to include a foreign location or when comparing two or more countries. Martinez and Toyne (2000) stressed that the

questions are limited to those that can be legitimately articulated within the paradigms accepted by the various business disciplines (e.g. management).

The second paradigm also described by Vernon (1964), focuses attention on the challenges and issues confronting organisations and their management when operating in several countries simultaneously. The focus is on understanding and explaining how organisations are managed across two or more countries.

The third paradigm builds on the knowledge that amasses as a result of the first two paradigms and the questions they raised. According to Toyne and Nigh (1998) the focus of this paradigm is on understanding the differential outcomes on two or more culturally distinct business processes, that are in sustained and meaningful interaction. Toyne and Nigh (1998) further stated that at the core of the evolving (or emerging) interaction paradigm is the idea that the evolution of international business, is the result of the learning that occurs as a consequence of two or more businesses or business processes in dynamic interaction. For the purpose of this research the interactions under investigation are business networks and their impact on international business performance.

2.1.2 Implications of internationalisation and globalisation

According to Moss Kanter (1994), globalisation is transforming business in powerful ways: "It is forcing companies to rethink strategies, redesign their organisations, seek new partnerships, and open minds as well as boundaries" (Moss Kanter 1994, p. 227). Perlmutter and Heenan (1994) upheld that to be globally competitive, multinationals must be globally co-operative. This necessity, they advocate, is reflected in the acceleration of global strategic partners (GSP) among companies large and small (Perlmutter & Heenan 1994, p. 129). When Ohmae (1985) exhorted companies to undergo "insiderization" in order to be globally effective, he is referring to relationship building with local officials, distributors, and opinion leaders. Other writers (Voght 1989; Kanter 1994) also stressed the importance of building and strengthening such relationships:

"Globalisation requires new relationships both across companies and in companies. To compete effectively in the global economy, companies must strengthen their internal unity as well as become more adept at external learning"

(Kanter, 1994: 231)

Competitive advantages originating in one nation can be efficiently exploited in another (e.g., proprietary technological knowledge or a brand name; Dunning, 1988 cited in Chen 2005). Internalization theory suggests that when penetrating foreign markets to exploit technological advantages, for example, multinational enterprises (MNEs) need to choose between setting up subsidiaries or signing licensing agreements with foreign partners. To a large extent, this trade-off is guided by the relative efficiency of hierarchy *vs.* external markets for the transfer of competitive assets across borders, especially intermediate goods in the form of proprietary technological knowledge (Buckley & Casson 1976, 2002; Dunning 1980; Rugman 1981; Hennart 1982). This classic trade-off between market and hierarchy has been supplemented by the analysis of hybrid governance structures, such as joint ventures or network arrangements to enlist complementary assets held by local business partners (Anderson & Gatignon 1986; Hennart 1989).

2.2 SMEs AND INTERNATIONAL BUSINESS

Much of the literature on international business has tended to focus on large multinational corporations. However, SMEs have an important role to play in international business activity. SME internationalisation is an emerging area of research in international marketing (Burgel & Murray 2000; Crick & Jones 2000; Knight 2000; Rundh 2003). In Ireland, SMEs constitute the majority of enterprises and contribute to the flexibility and resilience of the economy as well being active in international markets. Madsen and Servais (1997) recommended separating the analysis of the internationalisation process of small firms from processes of large firms, as it may be difficult to generalize patterns and recommendations across both groups of firms because the impact of the founder will decrease as the size of the firm increases.

Empirical evidence from Czinkota (1982) in the US and Pointon (1977) in the UK suggested that approximately 20 % of firms that are large in size tend, in line with the Pareto effect, to contribute in the region of 80 % of export sales. This reinforces the need for empirical work to be undertaken to investigate the international activities of SMEs. Coviello and McAuley (1999) highlighted that the internationalisation literature tends to rely on the large multinational firm as the traditional unit of analysis in spite of the fact that SMEs are active in international markets. In relation to SME internationalisation strategies Numella et al.

(2006) found that small firms take diverse routes to internationalisation and the level of change due to internationalisation also varies considerably across firms

This emphasis on larger firms is of additional concern given the argument that smaller firms differ from larger firms in terms of their managerial style, independence, ownership, and scale /scope of operations (Schollhammer & Kuriloff 1979; O' Farrell & Hitchins 1988), with structures that are less rigid, sophisticated, and complex than those in larger firms (Julien 1993; Carrier 1994; Carson et al. 1995) As stated by

Schuman and Seeger (1986):

“Smaller businesses are not smaller versions of big business...smaller businesses deal with unique size related issues as well, and they behave differently in their analysis of, and interaction with, their environment.”

Schuman and Seeger (1986, p.8)

In the Irish SME context, OECD Figures (1998) show that about 40 % of SMEs in Ireland are engaged in export activity, and 53% of SMEs with more than 3 employees have been engaged in some export activity. According to OECD (1998) small and medium sized organisations in Ireland tend to concentrate on the UK and European markets, with a tendency towards the UK increasing as the size of the organisation decreases. Moreover, the OECD (1998) found that for the average Irish small exporting organisation approximately 45 % of exports go to the UK, 35 % to the rest of Europe and 20 % to the wider world market.

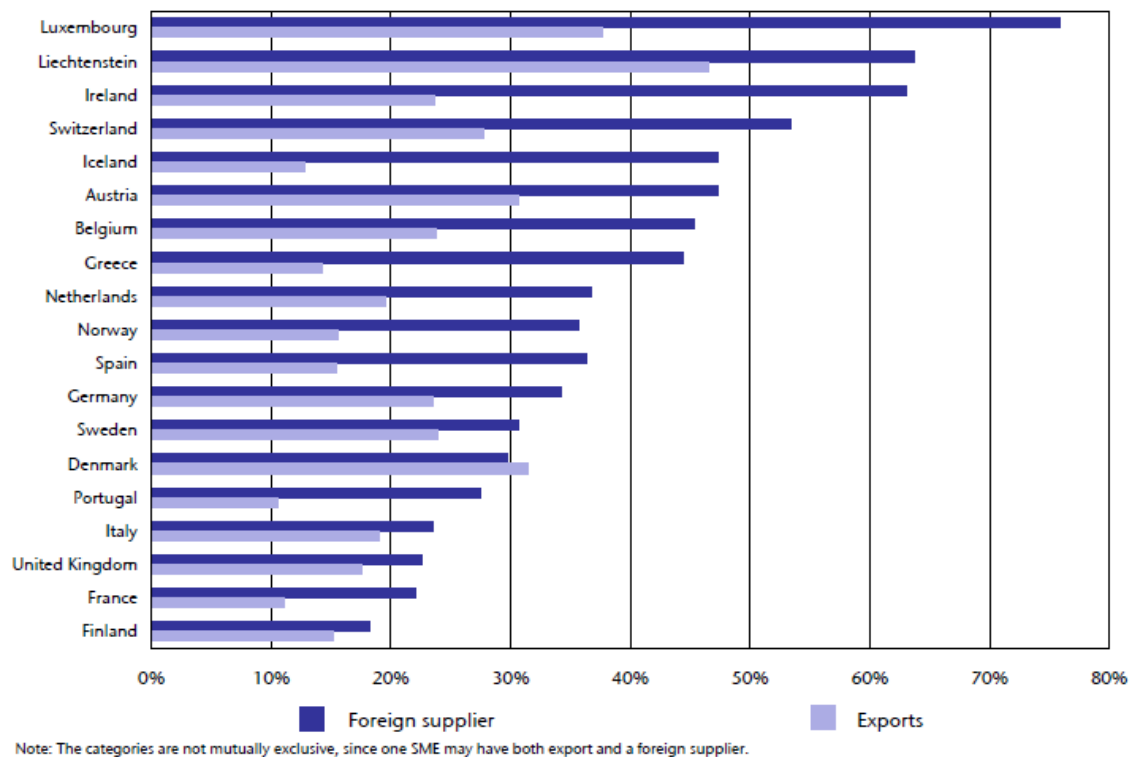
In relation to more recent internationalisation figures, Ireland performs significantly above the EU average in this regard, although it has a lower share of turnover from export than many other EU countries (4.2% compared to an average of 4.6%). Despite that, Irish SMEs are, internationally more active than their EU peers on the level of gaining income from subsidiaries and/or joint ventures abroad (10% compared to 5%) and on the level of purchasing inputs abroad (35% compared to 12%) (SBA 2008).

Considering internationalisation strategies in a European context, research carried out by the ENSR (2003) found that foreign supply relationships are the most common form of internationalisation, being the case for 30 % of all SMEs. The second most prevailing form of internationalisation is exporting, undertaken by 18 % of SMEs. Three %of the surveyed

SMEs have collaborative relationships primarily with foreign SMEs. Another three % have established foreign subsidiaries or branches.

Interestingly, in the context of this study, they found that internationalised SMEs also engage in cooperation more frequently than SMEs in general. This is true both for formal co-operation (42 % of the SMEs with subsidiaries compared to only 24 % for the non-internationalised), but even more so for nonformal co-operation, which is undertaken by 50 % of the exporting SMEs and 53 % of the SMEs with foreign subsidiaries.

With regard to HTSMEs, access to know-how and technology was a frequent motive for going abroad for firms in the ENSR (2003) research. Smaller countries, with small domestic markets, are more internationalised (see figure 2.2). The size of the domestic market is a very decisive factor for internationalisation. Hence, SMEs with specialised production or some large production in a small country will very soon find that the demand on the domestic market is insufficient for sound business. Tendencies for increasing specialisation globally are likely to push more SMEs into international business (ENSR 2003).



Source: ENSR Enterprise Survey, (2003, p.16)

Figure 2.2 Percentage of SMEs by Country with foreign supplier or exports

2.2.1 Barriers and Drivers of SME Internationalisation

In the context of internationalisation, Calof (1994) concluded that size is not necessarily a barrier to internationalisation, and SMEs have also been found to find unique ways to overcome their 'smallness' (Bonaccorsi 1992; Gomes-Casseres 1997). Nevertheless, it is also argued that SMEs face internal constraints to international growth such as limited capital, management, time, experience, and information resources (Buckley 1989). Furthermore, external barriers may be encountered in the form of entrenched firms or the government (Acs et al. 1997). Coviello and Mc Auley (1999) suggest that it might be expected that internationalisation of SMEs would be different from that of larger firms due to: 1) firm characteristics or 2) behaviours used to overcome size related challenges. Naisbitt (1982) argued that smaller is better, more able, and more competitive in the global economy.

In SMEs the decision maker characteristics such as knowledge, attitudes and motivation play a key role in the internationalisation decision of the firm (Reid 1981; Cavusgil 1984; Bloodgood et al. 1996; Chetty 1999). Cavusgil and Nevin (1981) found two internal determinants that were important for propelling firms into internationalisation. These were first, management's expectation of a significant impact on the growth of the firm through internationalisation and second, a high degree of commitment to internationalisation. Another study by Calof and Beamish (1995) found that it was the attitudes of decision makers in SMEs that propelled them into internationalisation rather than environmental factors. In order to attain international success a firm has to not only have the appropriate product and strategy, but its decision makers must have the appropriate attitudes as well (Czinkota & Johnston 1983; Calof 1994). It is these attitudes that determine how decision makers perceive the benefits, costs and risks of internationalisation (Calof & Beamish 1995). The attitudes that determine international decisions are shaped by the decision-makers' past experiences (Welch & Luostarinen 1988; Holbrook et al. 2000).

The intention to internationalise is influenced by managerial beliefs about the firm's competitive advantage, readiness to export, the risk associated with internationalisation and the perceived internal and external barriers towards internationalisation (Jaffe & Pasternak 1994). The founders of these firms shape these beliefs, which persist even after they have left (Baron et al. 1999; Tripsas & Gavetti 2000). Sometimes this belief system can be a competitive advantage for the firm (Collins & Porras 1994; Porac & Rosa 1996) or it can be a

deterrent as reported by Madhok (1997) who found that the firm's belief systems consisted of past routines that can create obstacles when new routines are required.

OECD (2009) undertook research to ensure a greater depth of understanding on SME internationalisation barriers and in doing so, identified the top four barriers as being the most serious impediments to SME internationalisation. These include 1) Shortage of working capital to finance exports; 2) Identifying foreign business opportunities; 3) Limited information to locate/analyse markets; and 4) Inability to contact potential overseas customers. A fifth barrier, lack of managerial time, skills and knowledge, was additionally examined in the OECD research. The key messages arising from the OECD (2009) focus around the issues of resources (which are addressed in section 2.3.7), growth, and the external environment and support provision.

Growth and knowledge-related motives are influential in driving SME internationalisation. Growth-related factors appear to be increasingly important to SMEs, reflecting their rising appreciation of the international pathways and associated opportunities for future business growth. SMEs' stock of knowledge resources and quest to leverage knowledge assets residing in external actors also seem to respectively push and pull them into international markets. Factors within the external environment of SMEs, including network and supply chain links, social ties, immigrant links, improved global trade infrastructure, and sector and region-of-origin factors seem to stimulate their internationalisation. These soft factors are inter-related and they reflect recently emerging trends, including, for example, the increasing importance of linkages with the lucrative supply systems and value chain network of larger global players to SME internationalisation. The support provision of the reviewed economies generally include a range of measures for redressing observed financial, informational, contactual and managerial knowledge-related barriers to SME internationalisation. Support programs seeking to respond to the observed top drivers and motivations for SME internationalisation are also in evidence. Some overlap was observed regarding assistance provision for barriers and motivations, which are understandable given that support measures targeted at redressing internationalisation barriers may also serve to stimulate internationalisation among SMEs.

Managers in already internationalised SMEs are actively involved in the firm's international activities, which mean they have access to new knowledge. This gives them the chance to

'learn by doing' and to integrate this knowledge as a firm competence (Zahra et al. 2000). Indeed, as a firm internationalises it has to develop structures and routines that match its internal resources and competencies which will help it to acquire experiential knowledge about its foreign markets (Eriksson et al. 1997). It is the managers in internationalising firms who identify what knowledge is important to the firm and they determine how this knowledge is transferred to the rest of the organisation (Holbrook et al. 2000). In fact, knowledge accumulation and learning play a key role in the international growth of the firm (Autio et al. 2000). Not all SMEs, however, pursue growth as their key objective (Covin et al. 1990; Porter 1996). Some want to maintain control of the firm while others perceive that they have limited resources such as financial and information, and management time and experience to grow. One of the limitations of growth through internationalisation is a lack of resources (Welch & Luostarinen 1988). Firms do overcome this limitation by forming business networks to acquire these resources and to benefit from being larger in size as a result of their networks. For example, firms that have limited foreign market knowledge and experience seek this knowledge from their distributors and customers (Welch & Luostarinen 1988).

2.2.2 Support measures available for SME internationalisation

Internationalisation of SMEs in the form of export promotion has been a prominent element in European Government policies for a long time: the first Internationalisation Agency (Other common names are Trade Promotion Agency TPO and Export Promotion Agency EPA) was founded in Finland in 1919 and now all European Governments devote a considerable amount of resources to the issue (European Commission, 2007). Programmes to support SME internationalisation have traditionally been focused on promoting greater exports and usually developed independently from other policies. In fact, approximately 70% of all of them are focused exclusively on supporting exports. For these programmes it is estimated that 1 € of support produces a 40 € return in terms of increased exports which proves their high value in terms of return for investment.

Yet the most potent argument in favour of governmental support lies in the fact that SMEs play a key role in the stability and potential of any national economy. As most SMEs face resource limitations; they need to be supported to acquire the capabilities needed to compete successfully in the international market. Traditionally Government support has been based on the 'level field' concept: as SME lack the expertise and resources of multinational enterprises

(MNE) they need support to create a ‘level field’ of competition (European Commission, 2007). Lambrecht and Pirnay (2005) highlighted that government support measures based on building capacities and supported by consultants produce a high level of ‘additionality’: as an important number of SMEs in these programmes would not have internationalised without the Government support. In Ireland, there are two strands to support for international market development. Firstly, there are the specific government departments and units, and secondly there are five key organisations play an important role in export promotion. Table 2.1 provides a summary of the main functions of each of these based on the work of Leyden (2007).

Table 2.1 Summary of Export Support Measures in Ireland.

Government Departments	
Bilateral Trade Section	Section with main responsibility for the promotion of Irish exports on world markets. (The Department also maintains a “Multilateral Trade Section” whose main role is to determine Ireland’s trade policy in relation to external fora, such as, the EU and the WTO). This is achieved by working closely with State agencies and other Government departments, in particular Enterprise Ireland, Forfás and the Department of Foreign Affairs, in the development and coordination of the programme of Ministerial-led overseas trade missions and other promotional events, and assisting in the coordination of inward trade related visits. The Unit also facilitates the coordination of direct Government-to-Government contacts, whether formal or informal, and ensures that any difficulties that may arise can be addressed. This is a key function which allows for many mutually beneficial agreements to be decided. The Unit compiles up-to-date and comprehensive data on exports and imports with our main trading partners (in association with the Central Statistics Office) and maintains close contact with the Irish based embassies of these countries.
Trade Missions	Each year the Unit coordinates in the region of 20 Ministerial-led trade missions to other countries. These involve high-level meetings with Ministers and officials, an extensive range of meetings for participant Irish companies with the aim of developing contacts and/or finalising contracts/joint ventures with partner companies in that country and also developing an awareness of Ireland as a supplier of world-class goods and services. The range of countries visited reflect both the need to provide support in important established markets and to assist companies to further develop their export potential and diversity by accessing emerging markets, particularly those in Eastern Europe and Asia.
National Trade Forum	The National Trade Forum (NTF) was established in 2005 to replace the former Trade Advisory Forum and provides a forum for discussion on the future agenda for developing trade policy. It is coordinated by Forfás, with the assistance of the Bilateral Trade Unit. The inaugural meeting engaged senior representatives from industry, the social partners and NGOs in a discussion on key trade policy issues. There was a positive response to the establishment of the Forum and to the trade research that has already been undertaken by Forfás.
Joint Commissions	A Joint Commission is a formal Bilateral Intergovernmental Forum dealing with trade development in all its aspects, mercantile and services. Its role is to further the

	development of economic and business cooperation, including scientific and technological cooperation and it provides a forum for discussing issues between the two countries involved. Ireland has formal Joint Commissions with China, Russia, Saudi Arabia and South Korea. In 2006, formal sessions of the Joint Commissions with China and Russia were held. Progress was made on a range of trade related issues and this initiative should continue to be supported.
Foreign Earnings Committee	The Foreign Earnings Committee (FEC) brings together representatives of all of the Government Departments and State promotional agencies with responsibility for overseas commercial promotion to ensure that there is adequate coordination of promotional efforts and to bring issues of concern to the attention of relevant authorities. The FEC has been re-structured to improve its effectiveness. A meeting of the revamped FEC took place on 29 November, 2006 at which it was agreed that the Committee continued to play a worthwhile role while recognising the need to constantly review its modus operandi and structure. The Department has several other areas of responsibility with regards to Export Credit Insurance, the OECD Investment Committee and as an Instrument of Pre-Accession Assistance (IPA) and European Neighbourhood & Partnership Instrument (ENPI) groups.
The Licensing Unit	Operates Ireland's export control system, in cooperation with a number of Government Departments and agencies including: The Department of Foreign Affairs, which is consulted on all military license applications and on dual-use license applications where foreign policy considerations apply. The Revenue Commissioners, whose Customs and Excise officers have the lead role in the enforcement of export controls of the Department of Enterprise, Trade and Employment.
Department of Foreign Affairs	The role is of high importance in cultivating strong liaisons with governments abroad and encouraging exports by promoting Ireland's trade, investment and other interests, including its culture; The Department of Foreign Affairs website lists the functions of the Bilateral Economic Relations Division as: working closely with the State Agencies and other Departments in identifying new market opportunities and in promoting awareness of Ireland as a preferred business partner and as a world-class location for educational services, investment and scientific research and development; using the resources of our Embassies to assist Irish business in gaining and maintaining access for their goods and services; highlighting the benefits of inward investment in Ireland as a gateway to Europe; and working to realise the objectives set out in the next phase of the Government's Asia Strategy.
Export Bodies in Promoting Irish Exports	
Enterprise Ireland	<p>Their five main areas of activity are:</p> <ul style="list-style-type: none"> • Achieving export sales • Investing in research and innovation • Competing through productivity • Starting up & scaling up companies • Driving regional enterprise
Industrial Development Authority (IDA)	The is the government body responsible for supporting and promoting industry and enterprise in the State generally, but also has a role in export promotion in that the encouragement of foreign direct investment is often closely related to export growth. Like Enterprise Ireland, the IDA has a network of offices to give Irish industry a face in the wider world.
Chambers Ireland	While their primary purpose is in lobbying government, they also operate an International Business Services section, which provide crucial information to exporters and potential foreign buyers and – perhaps most importantly – facilitate the issuance of Trade Documentation. Chambers Ireland are the accredited issuers of Certificates of Origin, the vital documents needed to meet customs requirements in importing states. Chambers Ireland is not a statutory body, and is funded by

	members' contributions, fees from professional services and other revenues. It is important to note the federal structure of Chambers Ireland, meaning that individual chambers enjoy a large degree of autonomy within the national structure.
Bord Bia	The Irish Food Board, also plays a role in export assistance, insofar as it coordinates Irish participation in Trade Fairs and provides information to potential buyers about Irish companies in the food industry. In addition, Bord Bia has offices in major cities in Europe and the US designed specifically to promote the Irish food industry abroad.
Bord Iascaigh Mhara (BIM)	The Irish Fisheries Board, acts in a similar capacity to Bord Bia, but specifically for the promotion of exports of seafood. Like the other statutory bodies involved in export promotion, BIM is largely funded by Oireachtas Grants. In terms of overseas operations, BIM has offices in Paris, Düsseldorf and Madrid from which export promotion is coordinated.
The Irish Exporters Association (IEA)	IEA is a member-funded body that provides information to members engaged in international trade, produces research on exports and the export sector, and lobbies government for more favourable policies towards the export sector.
Shannon Development	Is a regional development organisation funded by central Government which is responsible for the integrated development of tourism, manufacturing and trade in the Shannon Region. It was formed in 1959 to promote the use of Shannon International Airport and is Ireland's only dedicated regional economic development agency.
Tourism Ireland	Was established as the common external face for Fáilte Ireland and the Northern Ireland Tourism Board, under the terms of the Belfast Agreement of 1998. It has a role in export promotion in terms of marketing the Irish tourism product to overseas customers, and maintains a network of overseas offices in Europe, North America and Australia.

Two key reports in this area have reviewed the issues around SME internationalisation (ENSR 2003) and the key barriers and drivers of SME internationalisation (OECD 2009). Both reports focused on how SMEs are managing internationalisation, including an analysis of the internal and external problems that SMEs face in the internationalisation process. Policy measures were studied as a response to the problems faced by SMEs in the internationalisation process and the following provides some of the key messages from both reports.

The ENSR (2003) provided details of four elements they see as crucial for the success of policy measures in the field of internationalisation:

- Firstly, managers of SMEs typically have limited time and management capacity. A policy measure should offer to perform some of the practical tasks on behalf of the manager, especially in the case of SMEs with no international experience.

- Secondly, studies indicate that SMEs often need specific, targeted support. The services provided should be 'customised' i.e. be tailored to the problems of the individual company. Such targeted support might for instance be assistance in identifying an appropriate foreign business partner.
- Thirdly, one of the key findings of this report is that internationalisation is more than just exporting. Policy measures, whether general or company-specific, should therefore comprise all the different approaches to internationalisation and the support should include, not just exporting and FDI, but also other activities, e.g. collaboration, foreign sub-suppliers, etc.
- Finally, the fact that SMEs with only foreign suppliers perceive external barriers to internationalisation to almost the same extent as exporting SMEs also suggest the need for policy measures to address internationalisation in a broad manner.

OECD (2009) reviewed the support provision in a range of economies and found that they generally include a range of measures for redressing observed financial, informational, contactual and managerial knowledge-related barriers to SME internationalisation. Some overlap was observed regarding assistance provision for barriers and motivations, which are understandable given that support measures targeted at redressing internationalisation barriers may also serve to stimulate internationalisation among SMEs. OECD (2009) made the following recommendations specifically in relation to support agencies: Internationalisation support agencies are urged to audit their web presence and accessibility with a view to ensuring a level of visibility and awareness comparable to the best practice examples in their industry. Easy and active links to accessible and relevant support programmes of supra-national organisations, such as the European Commission, the United Nations, the World Bank, could be beneficial.

Furthermore, policy makers need to address the following questions, among others:

- Do they have the appropriate support measures to address the specific set of top barriers identified? If so, are the target SMEs sufficiently aware of them?
- How well does the support provision compare with international best practice?
- How responsive is this support provision to any observed sub-national or sectoral aspects of the perceived barriers?

- Are they appropriately visible online?
- What do they know regarding target users' perceptions of our support provision?
- What about non-users' perceptions?
- What actions are needed to improve awareness and perceived usefulness of our support programs for SME internationalisation?

2.2.3 SME Internationalisation and Networks

In relation to networks and SMEs, the 1999 Annual Competitiveness report recommended that SME policy should emphasise networking/cluster development and international linkages. Furthermore, the G-8 group of countries has given increasing emphasis to longer-term aspects of economic policy, such as the development of SMEs. Their view is that SMEs can be competitive in domestic and international markets if they can realise collectively the advantages of economies of specialisation that they do not have individually because of their small size, and recommend operating in cooperative networks and clusters (NCC 1999).

By forming these networks SMEs expedite their internationalisation efforts and improve their success rates (Coviello & McAuley 1999). In fact, several studies proposed that to enhance understanding of the internationalisation of SMEs researchers should study how these firms use their business networks to internationalise (Coviello & Munro 1997; Chetty & Blankenburg Holm 2000; Chetty & Campbell Hunt 2004).

2.2.4 High Tech SMEs

This study draws on research from SMEs in the telecommunications and internet sectors in Ireland. Although there is no single agreed definition of High Tech SMEs (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 & Spence 2005). These characteristics coupled with the new definition of an SME developed by the European Commission (2005), which introduces three different categories with each corresponding to a type of relationship an enterprise may have with another, allow for a broader understanding of these firms. These characteristics facilitate the internationalisation of HTSMEs which have been known to act quickly when windows of

opportunity in foreign markets present themselves (Lindell & Karagozolu 1997; Lindqvist 1997; Baldwin & Gellatly 1998; Karagozoglu & Lindell 1998). In dynamic high-tech markets, one of the factors influencing high performance appears to be speed of internationalisation. 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 (Teece et al. 1997; Eisenhardt & Martin 2000). For example, the Internet has increased the propensity of unsolicited orders and contacts from potential customers and partners, pushing firms in certain cases to make decisions without being in possession of the complete picture of opportunities, risks, etc (Crick & Spence 2005). The literature on the internationalisation of such firms is dealt with in the preceding sections.

In summary, SMEs are the focus of this study as:

- They account for over 97% of companies in Ireland;
- They are active in international markets;
- Internationalisation strategies differ from large firms and need to be studied as a separate unit of analysis;
- They have unique ways to overcome their size issues;
- Decision maker characteristics have a role to play in internationalisation strategies;
- They form networks to overcome resource constraints to expedite internationalisation;
- High tech SMEs operating in dynamic environments tend to internationalise rapidly.

2.3 INTERNATIONALISATION

This section documents the development of the literature on internationalisation from the 1970s to the present. According to Andersson (2002) the ways in which firms become increasingly involved in international activities, the internationalisation process of the firm is one of the central topics of international business research. Fletcher (2001) stated that for the most part, the area of internationalisation research has been devoted to the process of

internationalisation or to the factors causing internationalisation. Due to changes in the environment for international business, more complex forms of international behaviour have evolved, which some of the traditional approaches to internationalisation processes cannot capture. Fletcher (2001, p. 29) argued that national borders are becoming increasingly irrelevant, and this and other issues require firms “to adopt a more dynamic as opposed to incremental approach and switch between forms of international involvement as changing market circumstances require”

A number of reviews have been conducted in an effort to synthesize the literature on internationalisation (Welch & Loustarinen 1988; Aaby & Slater 1989; Johanson & Vahlne 1990; Anderson 1993). However a single universally accepted definition of the term ‘internationalisation’ remains elusive (Young 1987; Welch & Loustarinen 1988; Whitelock & Munday 1993), with a number of interpretations being found in the literature.

Beamish (1990) defines internationalisation as:

“The processes by which firms both increase their awareness of the direct and indirect influence of international transactions on their future, and establish and conduct transactions with other countries”

Beamish (1990, p. 77)

Similar to Coviello and Mc Auley (1999) this definition is the most relevant definition for this study for four distinct reasons: Firstly, it integrates the internal learning of the organisations with its patterns of investment and as such recognises the behavioural and economic components of internationalisation. Secondly, the definition is process based. This implies that internationalisation is dynamic and evolutionary. Thirdly, the definition is not restricted to outward patterns of investment and allows the firm to be involved with inward internationalisation activities such as importing. Fourthly, the definition implies that during internationalisation, relationships established through international transactions might influence the firm’s growth and expansion to other countries.

2.3.1 Models of internationalisation

The internationalisation process of exporting firms has been subjected to widespread empirical research (Cavusgil & Godiwalla 1982; Dichtl et al. 1984), and seems to benefit from a general acceptance in the literature (Reid 1984; Welch & Loustarinen 1988; Bradley

1995). In order to understand the development of theory in this area, the internationalisation process models are reviewed in the preceding sections. In the 1970s a number of models of internationalisation appeared in the literature. Fletcher (2001) divided the traditional models of firm's internationalisation processes into four major categories: the stages approach (Bilkey & Tesar 1977), the learning approach (Johanson & Vahlne 1977), the contingency approach (Reid 1984) and the network approach (Hakansson 1982). He argued that the first of these three approaches was developed on the basis of empirical surveys of past export practices and that some of the older models do not address the emerging and, complex nature of internationalisation (Hakansson 1982).

Johanson and Wiedersheim-Paul (1975) proposed a model that emphasised the organisational forms of international business involvement. Their model consists of three export stages and one post-export stage, each representing a successively greater commitment of resources to overseas markets. Initially the firm has no regular export activity. Thereafter it exports via foreign representatives, and finally it sells abroad through a sales subsidiary.

Bilkey and Tesar (1977) conceptualised the export development process from the perspective of a firm's increasing dependence on psychologically more distant countries. Their model consists of six distinct stages of export development in relation to managerial attitudes, ranging from one of a complete lack of interest in initiating exporting, to one marked by committed interest and involvement in exploiting export opportunities located far from the manufacturer's base.

The pre-engagement phase of a firm's export expansion process provided the focus of investigation for Wiedersheim-Paul et al (1978). Based on the firm's willingness to initiate exporting and its ability to collect and subsequently transmit information, they identified three types of non-exporting firms: domestic-oriented firms, which did not deliberately plan for or anticipate export sales; passive non-exporters, who might have engaged in exporting if an unsolicited order were received; and, active non-exporters, who made deliberate efforts to initiate exporting.

In examining export development behaviour in less and newly industrialised countries, Wortzel and Wortzel (1981) proposed five distinct stages through which an indigenous manufacturer could progress toward international markets. These were distinguished by the degree of control exercised by the exporters in overseas operations, with each successive

stage marked by the internalisation of production, marketing and other functions previously performed by the firms' foreign customers.

Cavusgil (1982) proposed a model that conceptualised export behaviour as a process comprising five separate stages: the pre-involvement phase; reactive involvement; limited involvement; active involvement; and committed involvement. Cavusgil (1982) further developed a model aimed at detecting differences among various types of manufacturing firms with regard to their government export assistance requirements. Based on Bilkey and Tesar's (1977) model, Cavusgil identified six stages, which encompassed companies ranging from those which were completely uninterested in exporting, to firms that were already experienced large exporters.

Barrett and Wilkinson (1986) drew on previous research and proposed a model focusing on the level of export involvement by the firm. Companies were classified into four stages or levels, ranging from those that had never considered exporting, to those that were already exporters. According to Leonidas and Katsikeas (1996) this model identified significant differences among firms in the various stages with respect to a number of top management attributes, such as personal characteristics, orientation to planning foreign activities, and attitudes toward international business.

Moon and Lee (1990) attempted to explain the dynamics of the export development process by building a model that employed a set of independent variables, identified previously as being significant determinants of export behaviour. Three different stages of export expansion emerged, which were referred to as the lower, middle and higher stages.

Similar to the work of Rogers (1962), Lim et al (1991) examined the firm's export behaviour from an innovation adoption perspective. They developed a model that distinguished between four stages called awareness, interest, intention, and adoption. At the awareness level, the decision-maker recognised exporting as an opportunity. During the second stage, the manager was favourably disposed to the possibility of exporting. Increased interest was assumed to lead to positive intention, which in turn, motivated the decision maker to try, and finally adopt, exporting as a new business activity.

Rao and Naidu (1992) categorised four groups of firms according to their level of export activity: non exporters, export intenders, sporadic exporters, and regular exporters. Leonidou and Katsikeas (1996) validated this model empirically and found that it exhibited three

distinct advantages: the stages were easy to interpret and were broadly indicative of the company's current export status; firms could easily be classified by using secondary data; and, extensive primary data was not required regarding managerial attitudes and motivations that were mentioned in the previous studies outlined above.

Crick (1995) offered a conceptualisation of the internationalisation process of exporting firms based on criteria set by Bilkey and Tesar (1977) and Czinkota (1982). His model consists of six stages, which closely resembled the stages proposed by these researchers, but was tested, in a different environmental context. Although Crick provides no detailed description of the various stages, there were significant differences between firms in the various stages. The differences stemmed from foreign customer demands, internal company requirements, export-related problems and the type of government support.

The table below summarises the main features of the models described in this section.

Table 2.2: Features of Early Stage Models

Author	Year	Number of Stages	Main Feature of Stages
Johanson & Wiedersheim-Paul	1975	Three export stages and one post export stages	Each stage represents a successively greater commitment of resources to overseas markets
Bilkey & Tesar	1977	Six stages of export development	Export development process in relation to managerial attitudes
Wiedersheim-Paul et al	1978	Three export stages	Based on a firms willingness to initiate exporting and its ability to collect and transmit information
Wortzel & Wortzel	1981	Five distinct stages of progression towards international markets	Distinguished by the degree of control exercised by the exporters in overseas operations
Cavusgil	1982	Five stage process	Detected differences among various types of manufacturing firms and government export assistance
Czinkota	1982	Six stages of export development	Stages refer to level of interest and experience in exporting
Barret & Wilkinson	1986	Four stages of export involvement	Identified differences - among firms with respect to a number of top management attributes
Moon & Lee	1991	Three stages	Determinants of export behaviour variables used as stages
Rao & Naidu	1992	Four stages of export activity	Model validated by Leonidup and Katsikeas (1996) and found three distinct stages
Crick	1995	Six stages of export development	Tested stages of Bilkey and Tesar (1977) and Czinkota (1982) in a different environment.

Despite the merits of the models described above, Leoniduo and Katsikeas (1996) argued that research on the subject has attracted criticism on structural, methodological and conceptual grounds. On the *structural* side, criticism has centred on: the single-activity nature of the models; the basic premise that export initiation and development occurs in a step wise fashion; the static perspective used to examine the export expansion process; the insufficient criteria employed to classify firms into discernible stages of export activity; and the arbitrary selection and simplistic operationalisation of many explanatory variables. On the *methodological* side, criticism has focused principally on: the lack of longitudinal investigation; limited geographical scope; concentration on few and diverse industries; emphasis on firms of smaller size; neglect of foreign customers; sample selection problems; non-response and informant bias; and the use on non-multivariate analytical methods. On the *conceptual* side, several issues are raised by the models, such as resource commitment, psychic distance, and foreign market entry mode, have been criticised as being too general and blind to the strategic alternatives open to the firm. Fletcher (2001) also argued that models should adopt a more dynamic as opposed to an incremental approach, to be able to switch between forms of international involvement, and lastly, also be able to include both international expansion and international contraction.

2.3.2 Foreign Market Entry Mode

International entry modes (entry modes) represent the third most researched field in international management, behind foreign direct investment and internationalization (Werner 2002). Despite extensive interest by scholars, practitioners, and public policy makers, only a few studies provide a review of entry mode research. These include Andersen's (1997) article reviewing theories and conceptual frameworks; Sarkar and Cavusgil's (1996) review of common themes and trends in entry mode research; Harzing's (2003) national culture and entry mode review; Zhao et al (2004) meta-analysis of transaction cost economics and ownership based entry mode choice; and Tihanyi et al. (2005) meta-analysis on the effects of cultural distance on entry mode choice, international diversification, and multinational enterprise (MNE) performance.

Entry mode research directly relates to the international activity of firms and includes studies on "the predictors of entry mode choices, predictors of international equity ownership levels, and consequences of entry mode decisions" (Werner 2002, p. 281). Sharma and Erramilli

(2004 p. 2) define an entry mode as “a structural agreement that allows a firm to implement its product market strategy in a host country either by carrying out only the marketing operations (i.e., via export modes), or both production and marketing operations there by itself or in partnership with others (contractual modes, joint ventures, wholly owned operations)”. Pan and Tse (2000) divide entry modes into two categories: equity and non-equity. They explain that these two categories of entry modes considerably differ with regard to investment requirements and control. First, they assert that equity modes (e.g., joint ventures and wholly owned ventures such as greenfields, brownfields, and acquisitions) require the exercise of higher levels of control from firm headquarters, due to their involving a relatively large commitment to investment (Pan & Tse 2000). Second, they suggest that non-equity modes (e.g., contractual modes such as licensing, R&D contracts, and alliances) require lower levels of control since these forms of entry are much less investment intensive (see also Anderson & Gatignon 1986).

Cannabal and White (2008) demonstrated that several different types of theoretical and methodological approaches have been adopted in entry mode research. However, despite extensive existing research, there are significant gaps in the entry mode literature. For example, very few studies have discussed how a firm’s entry mode choice will influence post-entry decisions and performance (Pan et al.1999, Brouthers & Bamossy 2006)). Strategic decisions made by firms following entry mode choice are crucial in determining whether or not they will be successful in the market entered.

The establishment of an entry mode is an important part of the process of internationalisation. It signifies the formal organisational arrangements of business practices that; cross borders; transfer aspects of the business into the host country, and indicate the form of return in terms of revenue and investment. The entry mode therefore has legal, accounting, organisational and strategic implications. According to Jones and Young (2009) it tends to be neglected or underplayed in process and network studies where the focus is on the development of relationships as opposed to the governance of business activities. Recent conceptual advances in the field of international entrepreneurship research consider how modes contribute to the understanding of internationalisation as a temporal process (Bell et al. 2003; Jones & Coviello 2005, Jones & Young 2009). This model will be revisited in the concluding chapter of this study.

2.3.3 Innovation Related and Uppsala Internationalisation Models

As Andersen (1993) and Barkema et al (1996) pointed out, there are two further approaches to examining the process by which firms internationalise: (1) the group of Innovation-Related Internationalisation Models: and (2) the Uppsala Internationalisation Model, which is a theory of organisational learning. Common to all these models is that they consist of a number of identifiable and distinct stages with higher level stages indicating greater involvement in a foreign market.

The first group of models are based on Roger's stages of the adaptation process (Rogers 1962, p. 81–86). Common to these models is the view that the internationalisation process is a series of innovations for the firm. Their focus is exclusively on the export development process, in particular, of small and medium sized firms (Leonidou & Katsikeas 1996, p. 529), on the basis of a comprehensive review of these models summarised in table 2.2, they identify three generic stages: the pre-export stage; the initial export stage; the advanced stage.

The distinctive feature of the Uppsala Internationalisation model is the emphasis on the different institutional forms that are associated with the growing dependence on foreign markets. As Reid (1983) noted, this model examines internationalisation in terms of structural adjustments to foreign market servicing arrangements resulting from the level of export sales dependence. The Uppsala model seeks to explain and predict two aspects of internationalisation of the firm: (1) the step by step pattern of institutional development within individual national markets; and (2) the expansion of firms across national markets as they move from nations which are proximal to those which are increasingly psychically distant.

A number of empirical studies have examined the Uppsala Model. Reid (1983) expressed surprise at the widespread acceptance of the stages to internationalisation since it largely rests on a limited number of empirical studies; the initial research into overseas expansion of four Swedish companies (Johanson & Vahlne 1977), and an Australian investigation which treated interstate expansion as analogous to overseas expansion (Wiedersheim- Paul et al. 1978). In addition, Loustarinen (1980) and Larimo (1985) reported similar evidence for Finland. Finally, Yoshihara (1978, p.372) on the basis of an examination of Japanese foreign investment in Southeast Asia concluded “the pattern of investment seems to substantiate the evolutionary theory of foreign investment”. In contrast, a number of other studies failed to

corroborate the notion that firms increase their commitment to individual markets through the four successive stages of the establishment chain (Buckley et al. 1979; Hedlund & Kveneland 1985; Turnbull 1987; Millington & Bayliss 1990). Clarke et al (1997) further challenged the Uppsala model and through their study proved that there is too much emphasis on the accumulation of market specific compared to general knowledge.

In defence of the stages model, Chetty and Eriksson (2002) in a study of the mutual commitment and experiential knowledge in mature business relationships found support for the incremental approach to internationalisation as proposed by Johanson and Vahlne (1977). Incremental mutual resource commitments lend to increasing experiential knowledge, which has an impact on resource commitment, thus when firms form a relationship they develop routines on how to co-ordinate this relationship, and are reluctant to change them. From their results it can be inferred that changes in routines and procedures occur incrementally as adaptations are made. 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 frequently switched to a higher commitment mode, which was often a change from a distributor to a sales subsidiary (Agndal & Chetty 2007).

In order to explain the path of the internationalisation process itself, Johanson and Vahlne (1990) developed a dynamic theoretical model in which they made the distinction between state and change aspects of internationalisation variables. In the model they argued that the present state of the firm is an important factor in explaining future changes and subsequent stages. The change aspects are seen as ‘commitment decisions’ and ‘current business activities’.

Building on Chetty’s (1999) portrayal of the weaknesses of the stages models, table 2.3 incorporates some of the strengths of the stages model as evident in the literature.

Table 2.3: Weaknesses and Strengths of the Stages Models of Internationalisation.

Weaknesses	Authors	Strengths	Author
Too deterministic and sequential	Reid(1983), Turnbull (1987), Fina & Rugman (1996)	Emphasises the organisational forms of international business involvement	Johanson & Wiedersheim Paul (1975)
Excludes other strategic options	Melin (1992)	Takes the perspective of a firms increasing dependence on psychologically more distant countries	Bilkey & Tesar (1977)
Firms frequently skip certain stages	McKiernan (1992), Oviatt & McDougall (1994), Rennie (1993)	Considered the degree of control exercised by indigenous companies as they progressed to international markets	Wortzel & Wortzel (1981)
Reduction in product life cycles expedites internationalisation	Young (1987)	Considered the role of government export assistance and the export development process	Cavusgil (1982)
Fails to explain internationalisation in experienced firms	Melin (1992)	Identified a number of top management attributes such as personal characteristics, orientation to planning foreign activities and attitudes towards international business	Leonidou & Kastikeas (1996)
Does not explain the dynamics of progressing from one stage to another	McKiernan (1992)	Included determinants of export behaviour	Moon & Lee (1990)
Oversimplifies a complex process	Dichtl et al (1983)	Examined a firms export behaviour from and innovation adoption perspective	Rogers (1962), Lim et al (1991)
Ignores acquisition as an international path	Forsgren (1990), Sharma (1992), Loustarinen (1991)	Foreign customer demands, internal company requirements and export related problems considered	Crick (1995), Bilkey & Tesar (1977) & Czinkota (1982)
Nation specific factors such as government programmes, industry competition and market demand promote or inhibit internationalisation	Sullivan & Bauerschmidt (1990)	Incremental mutual resource commitments lead to increasing experiential knowledge	Chetty & Eriksson (2002)
Ignores impact of exogenous variables	Welch (1992)	As the firms gained more knowledge and experience in their international markets they often switched to a higher commitment mode	Agndal & Chetty (2007)
A firms internationalisation is influenced by the operating environment, industry structure, and its own marketing strategy	Turnbull (1987)		

Ignores formal strategic planning and systematic appraisal, international experience and formal planning replace market experience, allowing firms to jump stages in the internationalisation process.	Millington & Bayliss (1990), Welch & Loustarinen (1988)		
Ignores the fact that the psychological distance decreases as the world becomes more homogeneous.	Nordstrom (1990), Sullivan & Bauerschmidt (1990)		

2.3.4 Born Globals

More recently, even more evidence of the limitations of the manifest stage models has appeared in the literature. Research has identified an increasing number of firms, which certainly do not follow the traditional stages pattern in their internationalisation process. In contrast, they focused on international markets or maybe even the global market right from their birth. Such companies have been named Born Globals (Rennie 1993; Knight & Cavusgil 1996) Global start-ups (Oviatt & Mc Dougall 1994), High technology start-ups (Jolly et al. 1992), and International New Ventures (Mc Dougall et al. 1994). According to Madsen and Servais (1997) the Born Global phenomenon can partly be understood and analysed by existing theories and descriptions of internationalisation processes in firms. Madsen and Servias (1997) further advocated that the network approach offer some promising additional insights into the phenomenon.

Mc Dougall et al (1994), as well as Knight and Cavusgil (1996), referred to a number of empirical studies, which appeared to contradict the stages theory of internationalisation. Similarly, Welch and Loustarinen (1988) focused on small English, Australian and Swedish firms that skipped different stages and almost immediately after inception had foreign direct investments. Ganitsky (1989) investigated a sample of 18 Israeli exporters, who served foreign markets right from their beginnings. Brush (1992) found in a nation-wide study of small US manufacturers that 13 %of the sample had started international activities during the first year of operations. In an Australian study MC Kinsey and Co (1993) identified many Born Globals whose management viewed the world as its marketplace right from the birth of the company. Holstein (1992) reported similar findings among US firms.

According to Madsen and Servais (1997) the driving forces behind born globals were (1) new market conditions, (2) technological developments in the areas of production, transportation and communication, and finally (3) more elaborate capabilities of people, including the

founder/entrepreneur who starts the born global firm. All three factors are, however, interrelated.

Oviatt and Mc Dougall (1994, p.49) focused on newly started firms and they defined an International New Venture as a business organisation that, from inception, seeks to derive significant competitive advantage from the use of resources from and the sale of outputs in multiple countries. In contrast to traditional organisations that develop gradually from domestic firms to multinational enterprises, the International New Venture starts out with a new proactive international strategy – even though it starts with only a few employees/entrepreneurs.

Concerning the governance structure of activities, Mc Dougall et al (1994) claimed that there are key differences between established firms and start-ups, due to the amount and sources of resources. The latter type of firms will only have few resources left over for expensive investments in, for example, distribution channels; therefore, in comparison with established firms, the entrepreneur must rely more on hybrid structures for controlling the sales and marketing activities (e.g. close personal relationships, joint ventures).

This is in accordance with the findings of Bell (1995) in his study of small computer software firms. In the study he argued that the Uppsala Model did not adequately reflect the underlying factors on the internationalisation processes in these firms. He found that the process was strongly influenced by domestic and foreign client followership, the targeting of niche markets and industry specific considerations rather than the psychic distance to export markets. He also found very little support for the notion that firms progress systematically from exporting to other market entry modes; even though he found an increasing commitment to exporting among the responding firms. Finally, not all firms established themselves with domestic sales before starting foreign sales; this could be due to the prior experiences of the entrepreneur or to the fact that exports were often limited when searching suppliers abroad.

2.3.5 Born Again Globals

Crick and Spence (2005) outlined that between the ‘stage’ models of internationalisation and the ‘born globals’ phenomenon, authors have identified companies with yet another international trajectory. These companies, which are known as ‘born-again globals’, may have internationalised a while back, but have pursued a domestic strategy for some time. A

critical incident may have taken them from their traditional path and sent them into the international arena (Bell et al. 2003). Such critical incidents could be a change in management or ownership, a fresh infusion of capital or a change in scope of a domestic customer. Thereafter, these firms underwent rapid and structured internationalisation typically by using newly acquired networks. Recognition that internationalisation is affected by multiple influences has resulted in a number of authors suggesting that a contingency view goes some way to explaining firms' internationalisation (Reid 1983; Woodcock et al. 1994; Yeoh & Jeong 1995; Kumar & Subramaniam 1997). In more recent years, researchers have studied these Born Again Global type companies in an effort to understand their internationalisation process (Madsen & Servais 1997; Coviello 2003) and found that networks play an important role in the complex, dynamic, interactive and frequently non-linear internationalisation processes. Examples of exceptions to the single firm orientation in internationalisation are those dealing with cooperation through formal relationships such as strategic alliances, licensing, management contracts and joint ventures, for example Contractor and Lorange (1988) and Lorange and Roos (1992).

Kutscher et al (1997) emphasise the importance of time management in internationalisation, as firms have to decide when to accelerate or decelerate internationalisation. This means that they have to hasten or slowdown their relationship building with customers, joint venture partners and distributors, and they have to prioritise as resources are scarce (Chetty & Campbell-Hunt 2004).

When firms deinternationalise they might adopt what Hadjikhani (1997) refers to as a 'sleeping strategy' to maintain a presence in the market they have pulled out of thus making it easier for them to re-enter the market. In this situation the firm will continue to invest in maintaining relationships in these markets even though they have reduced sales or do not have sales there.

2.3.6 Networking and Born Globals

The focus here is on deepening our understanding of the role of networking in the rapid internationalisation process and international market performance of born global firms and the behavioural characteristics of these firms that actively build and nurture strategic network relationships for international market entry. The literature reiterates that networks and

relationships are important in internationalisation for firms of all sizes because they enable firms to link activities and tie resources together (Coviello & Munro 1995, 1997; Jaklic 1998; Andersson & Wictor 2003; Chetty 2003). There is evidence to suggest that networks are particularly important for born global firms, given their resource constraints (Coviello & Munro 1995). Born globals tend to be vulnerable because they are frequently dependent upon a single product which they commercialise in lead markets first, regardless of where their markets are situated geographically. These firms often seek partners who complement their own competencies in these lead markets developing effective networks (Johanson & Mattsson, 1988; Oviatt & McDougall 1994; Madsen & Servais 1997; Coviello & Munro 1997).

A number of researchers have argued that networks contribute to the success of born global firms by helping to identify new market opportunities and contribute to building market knowledge (Coviello & Munro 1995; Madsen & Servais 1997; Chetty & Holm 2000). Other ways in which networks contribute to success have been explored. For example, Ritter and Gemünden (2003) sought to examine the characteristics of the company and its association with network competence, and the ability to establish and maintain networks. Jaklic (1998) and Chetty and Holm (2000) examined and categorised the born global firm's position in a network. Studies by Ritter and Gemünden (2003) and Chetty (2003) also investigated the development of knowledge-intensive products through networks. Others (Rasmussen et al. 2001; Andersson & Wictor 2003) examined the role of the entrepreneur in the developing network relationships. Moen et al (2004) identified the role of industry networks in the market entry forms and market selection of small software firms. Recently, Harris and Wheeler (2005) focused on the role of personal relationships of young entrepreneurs in internationalisation, highlighting the origin of relationships, often outside a business context, and their impact on strategy as well as on market knowledge and access.

The role of the entrepreneurial decision maker and the firm's characteristics in taking up opportunities for international penetration, extension, integration and operations remain unclear (Chetty & Holm 2000). Network roles developed over time were identified by these researchers as an important question for future research. Andersson and Wictor (2003) identified that the entrepreneurs they studied all had a vision for their strategy to be enacted globally, and that all had extensive international experience, either in business or, as students or through informal ties. Rasmussen et al (2001) emphasised the role of the entrepreneur in

finding approaches that reduce the risk of internationalisation. Despite this work Sullivan-Mort and Weerawardena (2006) contend that there is a need for more investigation to fully understand the role of the entrepreneur.

2.3.7 Resources and Internationalisation

Resources are frequently cited as a concern for small firms in their international activities. OECD (2009) found that limited firm resources and international contacts as well as lack of requisite managerial knowledge about internationalisation have remained critical constraints to SME internationalisation. These resource limitations, especially of a financial kind, seem particularly prevalent among smaller, newly internationalising.

The Resource based view (RBV) of internationalisation argued that the major decisions (for example, on country market choice, market servicing mode, product-market strategies) are based on total consideration of all available resources and capabilities of the firm as well as environment (including competitive) realities (Grant 1991; Bell et al. 1998). According to this view, achieving a sustainable competitive advantage is a result of possession of resources, which are unique (provide a barrier to duplication), and enable a firm to provide value. Also important in achieving competitive advantage, is the managerial capability in successfully deploying these resources into returns for the firm (Penrose 1959; Wernerfelt 1984; Fahy & Smithee 1999). Such resources may be internal for the firm, but can also be externally leveraged, for example, through network relationships (Phiri 2003). Consequently, international expansion by a firm represents an attempt to exploit valuable intangible resources, such as technological capabilities, well established brand names, or management know how. Such resources defy easy transfer but are deployable in multiple markets at low cost (Hsu & Pereira 2008).

Furthermore, in the resource perspective it is pointed out that a firm's own internal resources and the external resources with the network determine the course of the firms' internationalisation (Chen 1996; Crick & Spence 2005). SMEs have traditionally been considered weak contributors to internationalisation due to financial and managerial constraints (Martinez & Jarillo 1989; Oviatt & Mc Dougall 1994). As resource deficiency is a main characteristic of SMEs, Lin and Lawton (2006) argued that internal resource constraints can be one of the main determinants of a firm's decision to internationalise through its domestic inter-firm networks. By internationalising via its inter-firm network, the firm can

acquire the external resources that are controlled within the network, which in turn improves performance in international markets.

As compared to larger firms small and medium sized enterprises (SMEs) are typically regarded as resource-constrained (Knight, 2000; Hollenstein, 2005) and the main rationale for studying SME internationalization separately from the internationalization of large firms is that SMEs are more likely to face resource scarcities, e.g. in terms of financial and human resources (Coviello & McAuley, 1999). The general belief is that such resource scarcities limit SMEs possibilities to act upon identified opportunities abroad (e.g. because internationalization requires costly information and a need for planning) and also make SMEs more susceptible to risks or to the potential negative effects of internationalization (Lu & Beamish 2001; Westhead et al. 2001). Empirical findings indicate that resource scarcities may indeed in some instances prevent small firms from internationalizing (Westhead et al. 2002). However, research has also demonstrated that even small resource-constrained firms can succeed in international markets (Knight & Cavusgil 2004) and are able to access valuable resources through cross-border activities (Kuemmerle 2002).

Hessels (2008), point out that perceived constraints regarding access to finance are an important determinant for SMEs to pursue foreign markets as a means for accessing capital. Hessels (2008) also found that perceived lack of new technology increases the probability for SMEs to internationalize as a means to access know how and technology. Overall, these results suggest that resource-constrained SMEs are pushed abroad by the desire to overcome internal resource deficiencies. The results also suggest that resource-constrained SMEs can be considered as entrepreneurial firms, which exploit internationalization as a strategy for addressing current resource needs. To understand internationalization behavior in more detail Hessels (2008) recommend that existing theories that focus on explaining firm internationalization should seek to incorporate a firm's resource deficiencies as well as a firm's internationalization goals.

Since in smaller sized businesses, the entrepreneur or team's characteristics drive organisational strategy, their desire for and enthusiasm toward overseas expansion generally results in higher international involvement (Cavusgil 1984; Katsikeas 1996). Higher education, which is a characteristic of high-technology entrepreneurs (Baruch 1997), has been linked to greater international openness together with foreign origins and past

international experience (Reid 1980; Cavusgil 1984; Bloodgood et al. 1996). As entrepreneurial learning takes place and experience grows, managers develop an increasing amount of intellectual capital that can be used to develop strategies and allocate resources. Consequently, it has been argued that elements of the 'resource based view' of the firm can partly explain firms' internationalisation.

2.4 INTERNATIONALISATION THROUGH NETWORKS

The network-based perspective is a more recent model of internationalisation to be put forward and like the 'born again global' theory: it offers an alternative view to the 'stages model'. The network perspective focuses on non-hierarchical systems where firms invest to strengthen and monitor their position in international networks (Johanson & Mattson 1988; Sharma 1992). This view draws on the theories of social exchange and resource dependency, and focuses on firm behaviour in the context of a network of inter-organisational and interpersonal relationships (Axelsson & Easton 1992). Such relationships can involve customers, suppliers, competitors, private and public support agencies, family, friends and other contacts. Organisational boundaries therefore incorporate both business (formal) and social (informal) relationships.

According to this school of research, internationalisation depends on an organisation's set of formal and informal relationships rather than on firm specific advantage. Therefore externalisation (rather than internalisation) occurs. The network perspective offers a complimentary view to foreign direct investment and other theories, given that these theories do not account for the role and influence of social relationships in business transactions (Granovetter 1985). Similarly, Coviello and Mc Auley, (1999) argued that the internationalisation decisions and activities in the network perspective emerge as patterns of behaviour influenced by various network members. As a result, the network perspective introduces a 'more multilateral element' to internationalisation (Johanson & Vahlne 1990, p. 12).

Johanson and Vahlne (1990) in their study of internationalisation in the context of exchange networks found that although foreign market entry is a gradual process (supporting the Uppsala model); it results from interaction, and the development and maintenance of relationships over time. These findings supported Sharma and Johanson (1987), who found that professional service firms operate in networks of connected relationships between

organisations, where relationships becomes 'bridges to foreign markets' and provide firms with the opportunity and motivation to internationalise. Related to this, Johanson and Mattson (1988) suggested that a firm's success in entering new international markets is more dependent on its relationship with current markets than on market and cultural characteristics.

Entrepreneurs' previous international experience has contributed to the rapid expansion of the firms through established international networks (Lindqvist 1997). The use of networks through the establishment of long-term relationships is instrumental in firms' development of international business activities, generally based on commitment and trust, because of greater geographic and psychological distances between buyers and sellers or partners. The establishment of these relationships often takes place within personal or business networks which act as communication infrastructures where common interests are shared (Hallén 1992).

Networks are strongly relied upon by SMEs at the beginning of a firm's internationalisation, in particular, to select and expand into foreign markets as they facilitate the acquisition of experiential knowledge about these markets (Lindqvist 1997). Face-to-face encounters with potential business partners and clients, business representatives and ordinary citizens allow internationalising SMEs to get a feel for the market, to gain insight in to how business is conducted, to demonstrate interest, and to start the building of trust (Wilson & Mummalaneni 1990). Networks also speed internationalisation by providing synergistic relationships with other firms, small and large, which complement each other's resources at various stages in the value chain (Dana et al. 1999; Jones 1999).

A number of private and public initiatives to help SMEs position themselves in appropriate networks have been developed and therefore the role of advisors and policy makers should not be overlooked. For example, trade associations organise various activities aimed at facilitating contacts between domestic and foreign business executives. Subsidised government programmes for SMEs also encourage the establishment of networks that may result in knowledge development and joint activities (Welch et al. 1997; Spence 2000). Consequently, it can be argued that certain elements of the networking approach to business strategy can explain firms' internationalisation (Crick & Spence 2005).

Crick and Spence's (2005) research revealed that subsequent internationalisation of firms followed planned and unplanned routes far removed from that advocated by the 'stage' models since it was contingent on a whole host of events. Work by Crick (2002) and Osterle (1997) suggested that some firms experience 'episodic' internationalisation rather than the linear path suggested by stage models. It has shown that the initial internationalisation of HTSMEs may not follow a systematic and linear pattern, but rather a more complex path created by, among other things, opportunities that present themselves in existing networks and serendipitous encounters, reiterating the findings of Bell et al. (1998) and Crick and Jones (2000).

2.5.1 Network Learning and Internationalisation

Forsgren (2002) was of the view that a special aspect of learning from other organisations is learning through existing business relationships. It has been shown that access to a network of business relationships creates the opportunity to learn from other firms. Inter-organisational learning in a business network implies that deep and long lasting business relationships facilitate the assimilation of tacit knowledge from the different actors in the network (Uzzi 1996; Eriksson et al. 1998; Kraatz 1998; Lane & Lubatkin 1998; Andersson et al. 2001). This is significant because it means that one can question the claim that experiential learning takes place through performing one's own activities, because of the difficulties of acquired learning through interaction with other organisations, which, in this context, also means that the prediction that internationalisation is a slow process may not always hold true (Forsgren, 2002).

The fact that firms sometimes 'follow the herd' when they invest abroad, or learn through the imitation of other organisations – network partners or organisations with high legitimacy - should also be included in a model of internationalisation behaviour. A firm can also search for the information about radically new alternatives alongside the current activities, and sometimes invest abroad in accordance with this search rather than according to its current experience (Forsgren, 2002). Therefore, the possible internationalisation routes are more varied and multifaceted than those predicted by the Uppsala Model (Forsgren 2002). Another consequence is that the internationalisation process can reflect more than one pathway, or what Van de Van calls a multiple progression rather than a unitary progression (Van de Van 1992).

The internationalisation literature has explored a considerable range of mechanisms through which firms accumulate the knowledge and expertise they need (Chetty & Campbell-Hunt 2003). Several studies show that a firm can acquire knowledge from its customers, which can be used for further market entry and expansion (Hertz 1993; Lee 1991). According to Penrose (1959) and Madhok (1997), the development and integration of new knowledge happens incrementally.

Supplier-customer interaction enables the two firms to develop knowledge about each other's needs and capabilities and to create new knowledge. These partners also accumulate knowledge about other actors in their counterpart's domestic market, thus embedding them in each other's business environment. When a supplier uses an existing customer relationship to develop new ones in the foreign market, the customer is known as a bridgehead (Johansson & Mattsson 1988). The relationship a supplier has with a customer in a foreign market enables it to expand within that customer's country. A bridgehead customer allows the supplier to acquire knowledge and to create new knowledge incrementally.

As firms internationalise they are learning about their markets and this frequently occurs through their business networks. A firm's learning is seen by Cohen and Levinthal (1990) as the ability of a firm to use its prior related knowledge and diverse background to identify the value of new information and to develop this into something creative. They use the term 'absorptive capacity' when they refer to a firm's ability to "recognise the value of new, external information, assimilate it, and apply it to commercial ends" (Cohen & Levinthal 1990, p.128). A firm may decide not to exploit new information even though this information could be important (Cohen & Levinthal 1989). The reason may be that the capacity to absorb knowledge is dependent on its existing knowledge and if the firm has no prior experiences with foreign customers it finds it hard to attain this knowledge base.

The primary concern for an international firm is how the previously developed knowledge can be applied in a specific new market. A firm, which operates in diverse markets, can acquire a rich amount of knowledge and strong technological capabilities through exposure to a variety of ideas and experiences (Barkema & Vermeulen 1998). These new ideas and new practices encourage innovations and thus enhance the firm's capabilities (Abrahamson & Fombrun 1994; Miller & Chen 1994; Miller 1996).

When a firm enters a new market it is confronted with new customers' needs and new testing grounds for its technology, which means that it has to find new solutions and develop stronger technological skills (Argyres 1996). In addition, failures may be experienced by firms operating in unfamiliar markets where customers, suppliers, competitors are different (Simon 1955). Failures encourage the firm to seek new solutions that enhance its capabilities thus enabling it to obtain knowledge, which is costly for its competitors to acquire (Madhok 1997). Conversely, the lack of such capabilities is costly for the firm in its internationalisation (Eriksson et al. 1997).

As an organisation builds a dynamic network of relationships both from within and outside, individuals will recognise the capabilities and knowledge of others (Cohen & Levinthal 1990). Consequently, individual capabilities are leveraged, thus increasing an organisation's capability. When a firm has developed the capabilities to accumulate knowledge in one relationship then it becomes more effective in accumulating additional knowledge in other relationships (Cohen & Levinthal 1990). Barkema et al's (1996) study shows that when a firm expands within a country it gains more from previous experience with customers in the same country. They argue that the significance of previous experience in the same country supports the view that 'experiential' knowledge (Penrose 1959; Johanson & Vahlne 1977) from a country is important, and that it increases the success rate of expansion within the same country.

2.6 THE INTERNATIONALISATION OF HTSMES

Smallbone and North (1995) suggest firms' fundamental reason for expanding their international activities is to increase their profitability and by the same token their propensity for survival. Arguably, this is all the more true for HTSMES dealing in dynamic environments where establishing a product as the standard before their competitors do or gaining a first mover's advantage are some of the criteria for survival (Moore 1999). In such a context, the findings from earlier studies into the internationalisation of SMEs may no longer be totally applicable (Johanson & Wiedersheim-Paul 1975; Pavord & Bogart 1975; Bilkey & Tesar 1977; Johanson & Vahlne 1977; Cavusgil 1984). For example, the 'stage' models of internationalisation, suggest that SMEs enter overseas markets in a systematic and sequential way, evolving towards riskier means of market penetration and more demanding countries once domestic sales had been well established and enough management learning

(experience) and resources have been acquired. Hence, companies evolve from being non-exporters to becoming large experienced exporters in several stages, depending on the respective authors' classifications (Andersen 1993; Leonidou & Katsikeas 1996; Coviello & McAuley 1999). These studies, however, have been criticised for not fully capturing the complexity of the realities of internationalising SMEs, especially in the high-technology sectors, where environmental variables change constantly (Turnbull 1987; Bell 1995; Knight & Cavusgil 1996; Bell et al. 1998).

Due to their narrow product scope, the fast obsolescence of their products and a limited domestic demand, especially in small countries, HTSMEs must have an international if not global focus from inception (Litvak 1990). These firms, also known as 'born globals', or 'international new ventures', which as described earlier in this chapter, are business organisations that, from inception, seek to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries (Oviatt & McDougall 1994). Boter and Holmquist (1996) found that firms' strategies varied depending on a number of circumstances including industry sector. However, findings indicated that innovative firms' international expansion were based on an entrepreneurial culture, opportunistic strategies and short-term goals, almost the opposite of what was suggested by the 'stage' models of internationalisation. McDougall (1989) indicated that the strategies of new firms that were international in scope differed from those with a domestic focus in terms of market awareness, channel control and market penetration. Within these firms, those in the former featured more aggressive strategies that could be potentially explained by the higher level of international competition in their industries. Another factor contributing to the fast international expansion of these companies may have been the absence of strong industry structure and lengthy company history. In dynamic environments the 'learning advantages of newness' or how quickly firms learn to adapt is sometimes more important than prior acquired knowledge (McDougall et al. 1994; Autio et al. 2000).

McDougall et al (1994) argued that some HTSMEs should create international business competencies from inception to avoid path dependence on domestic competencies that could stifle international performance. Recognition that internationalisation is affected by multiple influences has resulted in a number of authors suggesting a contingency view goes some way to explaining firms' internationalisation (Reid 1983; Woodcock et al. 1994; Yeoh & Jeong 1995; Kumar & Subramaniam 1997).

Networks are strongly relied upon by HTSMEs at the beginning of a firm's internationalisation; in particular to select and expand into foreign markets as they facilitate the acquisition of experiential knowledge about these markets (Lindqvist 1997; Crick & Spence 2005).

Pettigrew et al (1990) described internationalisation as more processual, iterative and fluctuating, reflecting how entrepreneurs/managers in small firms respond intuitively to international opportunities and learn experientially from their activities. It is evident from the extant literature on internationalisation that certain aspects of previous research are relevant when investigating the activities of SMEs in the high tech sector, namely, the level of commitment to international markets, possible episodes of international activity, the impact of a firm's networks on international activities, resource commitments, and learning/accumulation of knowledge on international markets through networks.

Bernardino and Jones (2008) investigated how contractual cooperation impacts on performance in foreign markets through the analysis of the resources of these HTSMEs. Among all the firms in their research, technological resources, firm international orientation and entrepreneur/chief executive human capital were associated with international intensity in the main foreign market. According to Bernardino and Jones (2008), these facts suggest that the relationship, respectively between technological resources, firm international orientation and human capital and performance among firms that establish independent entry modes in the main foreign market was strong enough to more than compensate the relationship among those that establish contractual entry modes. For example, technological resources, embedded in tacit knowledge are difficult and characterised by high risk of appropriation and costly to transfer to external partners. In this context and in line with previous research (Shrader 2001) it may well be a case that high technology SMEs with higher endowment of technological resources should avoid transferring technical knowledge to external partners in foreign operations.

More recent research Ujjal (2009) also analysed the relationship between resources and the export performance of HTSMEs. The findings of this research provides in depth knowledge on the relative importance of the different internal and external factors that determine the export performance of HTSMEs. In the policy context, it highlights the importance of government links in enhancing export performance. Commercialisation capabilities for near

market aspects such as product launch, market research and international marketing capabilities, are a major factor to achieving performance outcomes. Ujjal (2009) contends that knowledge inputs for technological commercialisation and exporting have to be accessed from external sources, as in house development of such complimentary knowledge is often not economically feasible.

2.7 INTERNATIONALISATION AND PERFORMANCE

The relationship between internationalisation activities and firm performance has been subject to extensive discussion in the strategy and international business literature throughout the last thirty years. During this time, internationalisation of firm activities has become a major strategic option for any firm. As firms increasingly broaden their scope of business abroad, the performance impact of internationalisation has become an important research interest of scholars in strategy and international business. Krist et al (2006) highlighted that unfortunately little consensus has emerged among researchers on the nature of the relationship between internationalisation and firm performance.

The current state of research on the internationalisation-performance relationship is often described as being 'inconsistent' (Harveston et al. 1999, p. 295), 'mixed' (Gomez-Mejia & Palich 1997, p. 310; Doukas & Lang 2003, p. 154; Hsu & Boggs 2003, p.23), 'decidedly mixed' (Hitt et al. 1997, p.772; Qian, 2002, p. 618), 'contradictory' (Geringer et al. 2000: 51), 'inconsistent and contradictory' (Ruigrok et al. 2004, p. 65), 'inconclusive and contradictory' (Tallman & Li 1996, p. 180), and 'conflicting' (Annavarjula & Beldona 2000, p. 48).

Krist et al (2006) stated that while prior research has searched for a generally applicable form of the internationalisation-performance relationship contemporary research assumes that such a uniform relationship does not exist but that this relationship is highly context dependent (Bausch & Krist 2007). Two lines of inquiry can be distinguished that are based on such an understanding. One investigates performance consequences from varying degrees of internationalisation while the other discusses firm specific differences as decisive factors that might be responsible for differences in the internationalisation-performance relationship (Lu & Beamish 2004).

The first research stream examines the benefit-cost trade-off from internationalisation. A fundamental statement is that this trade-off is not constant but varies along the internationalisation continuum. Consequently there must be an optimal degree of internationalisation for every firm. Following this rationale scholars have tried to resolve empirical findings of either a significant positive linear effect or significant negative linear effect of internationalisation on performance by remodelling the shape of this relationship. Significant results vary from u-shaped curve types to inverted u-shaped curve types and cubic curve types. A consensus on the nature and shape of the internationalisation-performance relationship is only now emerging (Contractor et al. 2003). Ruigrok et al (2004) proposed that the shape of the relationship itself is context related, depending on the size of the home market and the possibility to pursue a cultural or institutional related kind of international expansion. Empirical findings are even more diverse. The assertion of non-linearity is challenged by empirical studies that did test for but could not confirm a curvilinear relationship (Tallman & Li 1996; Hsu & Boggs 2003; Wan & Hoskisson 2003).

There is considerable evidence that firm level characteristics significantly moderate the internationalisation-performance relationship (Ruigrok et al. 2004; Bausch & Krist 2007). This line of research can be traced back to Hymer (1976) who identified firm specific advantage as a driver of internationalisation and Dunning (1979) who refined the idea of Hymer by examining different kinds of production inputs that can lead to the growth of the MNC. In their seminal work Morck and Yeung (1991) confirm this notion and assert that internationalisation *per se* is not a valuable strategy for investors, whereas the impact of R and D spending and advertising expenditures on market value increases with a firm's multinational scale. Other researchers like Christophe (1997) did not find empirical support for this proposition and doubt the generalisability of the positive impact of intangible resources on success when expanding business abroad.

In order to more fully understand the nature of the internationalisation-performance relationship and resolve apparent contradictory empirical evidence Krist et al (2006) viewed more empirical research as advisable, particularly on samples beyond those from the US and across different periods of time. Krist et al (2006) addressed the question if and how internationalisation relates to firm performance for a sample of publicly listed German firms, and investigated the moderating role of intangible resources with regard to their contribution to firm performance when expanding business abroad. Their findings provide evidence that

the internationalisation-performance relationship is highly context dependent. Furthermore, support was found for the proposition that intangible resources in the form of technology know-how significantly determined performance consequences from any internationalisation strategy.

2.8 EXPORT PERFORMANCE

This study focuses specifically on the export or international performance outcomes of a firm's internationalisation through networks, thus it is necessary to review the literature on export performance. Studies on export performance have reached inconsistent and even contradictory findings. Such conflicting results may be due, among other possible reasons, to the diversity in conceptualisation, operationalisation and measurement of the export performance construct. Carneiro et al (2006) conducted a review of how the export performance construct has been conceptualized and operationalised, both in theory and practice. Sousa's (2004) review of the export performance literature reveals that research on the measurement of export performance still remains underdeveloped, since no consensus exists about its conceptual and operational definitions. Although compared to earlier studies (Madsen 1987; Aaby & Slater 1989; Zou and Stan 1998), some progress has been made in developing theory and knowledge of the measures of export performance. The export marketing literature has been criticised for providing only fragmented results and for not being able to develop a widely accepted model of export performance, thus limiting theoretical advancement in this field (Diamantopoulos 1998; Zou & Stan 1998; Morgan et al. 2004).

2.8.1 Measures of Export Performance

This section provides an overview of the literature on measures of export performance, beginning with Bilkey (1978), whose scheme addressed behavioural aspects, including development stages of exporting activity, which, albeit important to understanding the export phenomenon, do not actually encompass indications of performance. Rather, they portray a state of affairs (describing the situation of export activities) or a set of obstacles vs. incentives to exporting.

Madsen (1987) and Shoham (1998) identified three major underlying dimensions among the multitude of performance indicators that had been used in empirical research: sales, profits and change. Although important, they do not constitute a comprehensive set of key characteristics of export performance. And, for the sake of organisation, it would have been better to acknowledge that sales and profits are part of a class of measures dimension while change (in sales, profits or other measures) is part of a temporal orientation dimension. Aaby and Slater (1989) identified eight performance 'dimensions', which can be organised in three groups: (i) behavioural/situational (propensity to export, export problems, exporters vs. non-exporters, and barriers to export); (ii) export sales performance (export sales, level of export, export growth intensity); and (iii) overall (perceptions towards export). Behavioural/situational 'dimensions' can be criticised (Zou & Stan 1998) on the grounds that they refer to aspects which conceptually are broader than export performance. Zou and Stan (1998) argued that many studies in the field of international business focus on a narrow view of export performance, for example export sales, while others have used non-financial measures. Literature on determinants of export performance argues that export sales volume and export sales growth are measures of organisational effectiveness, while export profitability is a measure of efficiency (Al-Khalifa & Morgan 1995). The current trend in export performance studies is to use multiple measures along two and three sub-dimensions of performance (Lages 2000).

As for the three export sales performance measures, they represent just a few angles from which export performance can be judged. So they do not provide a collectively exhaustive account of the export performance phenomenon. Cavusgil and Zou (1994) proposed a unified scale of export (marketing) performance, composed of the sum of the values of four indicators: strategic goals achievement, perceived success, sales growth, and profitability. Their proposal is parsimonious and may be appropriate given the practical constraints of most research works. However, it should not be considered an all-encompassing, framework for the characterisation of the export performance phenomenon because it does not incorporate other relevant aspects, such as the norm against which success should be judged. Besides, whether a uni-dimensional scale could be built out of those four dimensions may be brought into question (Styles 1998).

Matthyssens and Pauwels (1996) proposed a more encompassing framework, composed of five dimensions of export performance: (1) level of analysis (strategic level or scope at

which export performance is measured): corporate, SBU, product-market venture; (2) frame of reference (norm against which success is judged): objective, subjective (perceptual), goal-, domestic- or industry-related; (3) time frame (time period considered): static (a point in time in the past, the present or the future) or dynamic (change in the values of the indicators of performance); (4) data collection method: includes both the source of data (primary vs. secondary) and the collection method itself; (5) measures (criteria along which performance is judged): financial vs. Non financial.

Their frame of reference dimension, in fact, involves two different issues. One issue – related to the objective vs. subjective dichotomy – refers to whether data will be the same whoever the respondent or the data source used or whether data will depend on the respondent's opinion or personal (perceptual) evaluation. The other issue – related to the reference standard itself – refers to a comparative base point, below which performance will be considered 'bad' and above which it will be considered 'good' (Fiegenbaum et al. 1996). Such reference points against which export performance would be judged could be domestic operations, industry (competitors) or pre-defined goals (as put forward by Matthyssens & Pauwels, 1996), but they could also include a benchmark or other international operations within the firm. In the measures dimension, Matthyssens and Pauwels considered only the dichotomy between financial vs. non-financial measures, but it would be advisable to distinguish between different kinds of non-financial measures, (such as market, strategic or satisfaction-related measures). So, it is possible to say that Matthyssens and Pauwels' (1996) scheme is deficient, to some extent, in terms of internal consistency as well as collective exhaustiveness (Cairneiro 2006).

Madsen (1997) identified four dimensions: (1) objective vs. subjective (perceptual); (2) absolute vs. benchmarking (relative measures); (3) time orientation (short-term financial vs. long-term strategic measures); and (4) market-related vs. purely economic. Madsen (1997) considered that financial measures are always short-term and past oriented, whereas one could also measure expectations of future returns (Barney 1991). Besides, short-term measures can include more than just economic measures; and long-term measures could include not only strategic but also financial measures. As for the strategic measures, they would compliment with the third class of measure, market and economic space.

Zou and Stan (1998) identified the following dimensions and sub-dimensions: financial measures (sales, profit, growth); non-financial measures (perceived success, satisfaction, goal achievement); and composite scales. Their framework can be criticised on the grounds that growth should not be considered another type of financial measure, since one can conceive of change for other types of measures as well. There are also other types of non-financial measures, such as market and strategic measures. Zou and Stan's (1998) sub-dimensions of non-financial measures would better be grouped under the label of overall measures since they reflect a broader perspective. Moreover, other dimensions have not been explicitly included in their framework, for example, absolute vs. relative and objective vs. subjective. Zou and Stan (1998) also identified studies that used a scale to measure performance that is a measure composed of the aggregation of other measures. However, they fell short of investigating whether such aggregation was based on reflective indicators (where the indicators are considered effects of the phenomenon) or formative indicators (where indicators are considered causes of the phenomenon). Although, some scholars (Bollen & Lennox 1991; MacCallum & Browne 1993; Diamantopoulos 1999) have suggested that distinct terminology should be used to refer to the formative perspective on measurement – e.g., item vs. indicator, composite variable vs. latent variable (or factor), index vs. scale. There is one first decision – which individual measures to use – and an additional decision – to aggregate (and how) or not to aggregate them into a consolidated scale. So, this could be considered one methodological issue that could be labelled indicators structure. Zou et al (1998) proposed a unified scale of export performance, composed of three dimensions: financial, strategic, and satisfaction. However, the individual dimensions in Zou et al's scale are actually composed of measures of distinct nature. For example, their financial dimension includes profitability, sales volume and growth indicators. Their strategic dimension includes global competitiveness and strategic position (strategic indicators) but also global market share (although it can be considered strategic under some line of reasoning, it would fit better under a market label). The satisfaction dimension actually comprises overall measures elicited from some subjective (perceptual) data source. Katsikeas et al's (2000) review identified 42 performance indicators, which they grouped under three headings: economic (sales-related, profit-related, market share-related); non-economic (market-related, product-related and miscellaneous); and generic (perceived export success, achievement of export objectives, satisfaction with specific indicators of export performance, satisfaction with overall export performance, strategic export performance). Besides, they classified the

indicators along three organizing categories, eight classifier variables and their respective sub-dimensions. Their primary classification criterion (economic, non-economic, and generic) as well as their ‘dimensions of performance’ can all be considered different classes of measures. Besides, some of their proposed categories (e.g., generic, miscellaneous, efficiency) comprise distinct types of measures that should actually be classified under properly named labels.

The temporal sub-dimension under the frame of reference dimension indicates a firm’s current performance against its own past performance. This kind of comparison is not of the same nature as those of domestic market, industry or firm’s goals, which are taken at the same temporal moment. So the temporal sub-dimension reflects growth measures and should actually be grouped under some temporal orientation label. As for the others, it would seem more logical to consider the absolute vs. relative dichotomy. In the time horizon dimension, Katsikeas et al (2000) did not make it explicit that there are two aspects under consideration: the point of time (past, present, future) and also the static (a single point in time) vs. dynamic (change between two points in time) nature of the measures. Table 2.4 below summarises the main features and limitations of the export measures discussed here.

Table 2.4: Features and Limitations of Export Performance Measurement

Author	Year	Measurement Feature	Limitation
Bilkey	1978	Includes behavioural and development stages of export activity	Do not encompass indications of performance
Madsen	1987	Identifies 4 dimensions: objective/subjective, absolute Vs benchmarking, time orientation, and market related Vs purely economic	Past and future returns need to be specified
Aaby & Slater	1989	Identifies 8 performance dimensions in 3 categories: behavioural/situational, export sales performance and overall perceptions towards export	Behavioural aspects conceptually broader than export performance
Cavusgil & Zou	1994	Proposes 4 indicators: strategic goal achievement, perceived success, sales growth and profitability	Does not include the norm against which success should be judged
Matthyssens & Pauwels	1996	Proposes 5 dimensions: level of analysis, corporate SBU and product –market venture, frame of reference, objective/subjective goals, time frame and data collection method	Objective/subjective dichotomy in answering and lack of a comparative base point to judge performance against
Shoham	1998	Uses sales, profits and change as indicators of performance	Change is part of a temporal orientation dimension
Zou & Stan	1998	Considers financial, non financial and composite scales	Growth should not be considered a financial measure. Market and strategic

			measures should also be considered.
Zou et al	1998	Proposes a unified scale composed of financial, strategic and satisfaction	Individual dimensions are composed of measures of distinct nature
Kasikeas et al	2000	Identifies 42 indicators grouped under 3 headings: economic, non-economic and generic	Types of measures needs proper labels, lack of consideration of temporal issues.

2.8.2 Objective Vs Subjective Measures

In terms of the mode of performance assessment, studies might use objective or subjective measures or both. Sousa's (2004) review found that the majority of the studies use both modes of assessment. However, some scholars support the use of subjective over objective indicators (Katsikeas et al. 1996; Robertson & Chetty 2000). The following motives are usually used to support this view: (a) firms are extremely reluctant to provide the researcher with objective data (Francis & Collins-Dodd 2000; Leonidou et al. 2002); (b) objective data are not publicly available, and thus it is impossible to check the accuracy of any reported financial performance figures (Robertson & Chetty 2000); (c) decision makers are guided by their subjective perceptions of firm export performance rather than by objective, absolute performance ratings (Madsen, 1989); (d) difficulty in establishing a fixed reference point across firms, since financial success for one firm may constitute failure for another (Lages & Lages 2004); (e) subjective and objective measures are positively associated (Dess & Robinson 1984; Baldauf et al. 2000); (f) using the export venture as the unit of analysis favours the use of subjective measures over objective measures, since company reports and financial statements rarely provide detailed information on the different export ventures; (g) objective data are often difficult to interpret (Covin & Slevin 1991); and (h) using objective measures makes comparisons across businesses, especially in cross country studies, complicated because of differences in accounting and sales-recording procedures (Styles 1998).

Sousa (2004) cautioned that the relevance and importance of performance dimensions also vary across stakeholder groups (e.g. investors, employees, customers) and depend on whether the focus is on the short-term or the long-term (Walker & Ruekert 1987). A manager of a firm that focuses on the long-term to increase the market share in a foreign market may not perceive the export performance to be low even though export sales or export profits are weak. Including the viewpoint of the different stakeholders who will be affected by specific performance results is interesting and has also been suggested by other scholars in the strategic management literature (Chakravarthy 1986; Barney 1991; Fiegenbaum et al. 1996).

However, considering the competitors as a type of stakeholder seems to be controversial with the ‘beat the competitor’ view that drives most managers (Cairneiro et al. 2006). The unit of analysis relates to the part of the firm’s operations whose performance is to be evaluated. The scope of analysis refers to the destination markets of exports. The two dimensions could actually be merged under a single one involving the firm–market combination (Cairneiro et al. 2006).

2.8.3 Factors to Consider in Selecting Appropriate Measures

Having reviewed the various measures of export performance in the literature, it is now necessary to review the factors that need to be considered in selecting appropriate measures. Griffin and Page (1993) argued that nowadays the multidimensionality of performance is not under discussion, but rather which performance measures to use. Export performance, however, is a complex phenomenon and the choice of individual export performance measures depends on contextual factors that are research method-specific, export business-specific, and target audience-specific (Katsikeaset al. 2000). For instance, the unit of analysis has a significant influence on the measurement selection. In the case of export intensity, which is probably the most widely used export performance measure in the literature (Katsikeas et al. 2000), it is argued that this indicator should not be used when the analysis is performed at the export venture level (Matthyssens & Pauwels 1996). Similarly, the application of measures such as export profitability, overall export sales and overall export performance at the firm level when the export venture level was adopted, ignores the difference between the venture and the firm level.

The degree of the firm’s involvement in export operations is an aspect that has to be considered because it may influence the choice of export performance measures. For example, a firm in early stages of export development may put more emphasis on measures such as export sales and profits, while a more experienced firm may find market-share related measures more relevant (Sousa 2004).

The vast majority of the studies reviewed by Sousa (2004) assessed export performance at the firm level, which can be explained by the greater willingness of respondents to disclose information at this broad level (Matthyssens & Pauwels 1996). The selection of the unit of analysis is important for the correct operationalisation of export performance since a study at the firm level seeks success determinants describing the overall export activity of a firm

whereas a study at the venture level focuses on performance determinants of a particular product/market combination (Sousa 2004). For instance, when studying individual export ventures, firm level export performance analysis is inappropriate because of the heterogeneity of the firm's operations (Jacobson 1987). This is particularly relevant in sectoral studies. Using measures such as export profitability, overall export sales and overall export performance at the firm level when the export venture level was adopted, ignores the difference between the venture and the firm level. Furthermore, applying financial measures such as export intensity at the export venture level in most cases is very difficult (Dess & Robinson 1984). Therefore, the level of analysis adopted will have major implications on the operational measures of export performance to be implemented. Additionally, using a measure like ROI, as suggested by Myers (1999), to assess export performance ignores the difference between firm's overall performance and the firm export performance.

The characteristics of the firm have to be considered when selecting which performance measures to use. The size of the firm, for example, could influence whether the focus is on the short-term or long-term export performance since managers of small firms may emphasise short-term over long-term performance due to the lack of financial resources to operate with low margins in foreign markets. Another aspect that should be taken into account is the degree of the firm's involvement in export operations. Firms in early stages of export development may put more emphasis on measures such as export sales and profits, while a more experienced firm may find market-share related measures to be more relevant.

Performance specifically in the network based international entrepreneurship model can be measured through profitability and change in sales achieved by the collaborative arrangement (Lee & Beamish 1995). In addition, performance of the internationalised firm abroad may be directly captured through stability measurement of survival of the collaborative mode (Anderson 1993). An additional performance dimension that can be employed refers to perceptions of managers concerning outcome specific criteria (Zeira et al. 1997), which is often used in studies of international joint venture performance.

2.8.4 Measuring Export Performance in High Tech SMEs

HTSMEs typically evolve in particularly fast moving environments, and emergent strategies may be initiated by taking advantage of windows of opportunity which may not stay open for long (Crick & Spence 2005). In such an environment, opportunistic strategies bring more

value than systematic ones (Teece et al. 1997). It has been found that an entrepreneurial spirit leading to the seizing of opportunities when these present themselves has positively influenced internationalisation (Karagozoglu & Lindell 1998). However, problems have been identified in evaluating the performance of internationalising firms. Studies, typically taking an export perspective have measured performance using subjective cut-off points in survey data such as profitability, growth, or even the ratio of exports to total business (Crick et al. 1994). Other work has used award winning firms such as the Queens Award for Export in the UK, those judged as successful by an outside body to avoid subjectivity (Styles & Ambler 1994). More recently, it has been suggested that managers' own perceptions of performance against the objectives set is more appropriate as this can then be contextualised against the conditions facing a particular firm over a given period of time (Katsikeas et al. 1996; Crick & Bradshaw 1999). Recognising 'chance' opportunities and being ready to take advantage of them is known as serendipity. This arguably encompasses a temporal element (being in the right place at the right time), a relational element (the unplanned building of social networks), and an analytical element, such as the ability to establish connections between actual data and ideas (Fine & Deegan 1996). Merrilees et al. (1998) explained SMEs' international market selection through a four stage process. First, networking, referrals and meetings through which entrepreneurs widen their horizons and have the chance to identify potential opportunities. Second, identification of emerging opportunities: an opportunity for one person could be considered a hopeless encounter by others. Third, is a predisposition to respond quickly to relevant opportunities, and fourth, 'resource leverage', is the adaptability of resources to enable implementation.

Within a dynamic environment, the distinction between market selection and entry strategies becomes blurred as HTSMEs can adapt quickly to market requirements and take a holistic approach to their internationalisation (Bell et al. 1998; Jones 1999). A potentially viable contact in a country that was not considered prior to the encounter could lead to an evolution or a shift in the strategy. Similarly, negotiation with a person offering a type of collaboration that was not previously thought about could trigger a change in strategy (Crick & Spence 2005).

There is a growing body of literature supporting the association between export performance and the nature of relationships with channel members (Beamish et al. 1993; Cavusgil & Zou 1994; Styles & Ambler 1994). Ellis (2000) contends that this relationship is complex and

further research is needed to ascertain whether performance outcomes are maximised when elements of both the social and formal approaches are combined.

Table 2.5 provides a checklist of the main factors to be considered when selecting export performance measures. A detailed description of the measures used in this study is outlined in chapter four, section 4.3.4.

Table 2.5: Checklist for Selecting Measures of Export Performance

Checklist for Selecting Measures of Export Performance
Unit of Analysis
Degree of the firm's involvement in export operations
Size of the firm
Sector
Stage of export development
Collaboration/Network /Relational effects
Temporal Effects
Research Methods
Managers Own Perception of Performance
Analytical Element

2.9 CONCLUDING REMARKS

In drawing this chapter to a close, a summary of the shortcomings in the internationalisation literature is presented with a view to highlighting why network theory warrants further discussion in this context. It is evident from the literature that the domain of international business and globalisation impacts on all sizes and types of business. This study looks specifically at SMEs in the high technology sector. The following is a summary of the key points from this body of literature:

- Early international business theory only partially explains export behaviour of individual business units;
- The management perspective on international business recognised the role of environmental change, which is of relevance to firms operating in high tech, dynamic environments;

- The internationalisation of firms depends on whether firms can successfully develop and deploy resources and capabilities at the level of the firm, which contribute to their profit abroad;
- The core of the evolving interaction paradigm of international business, is the result of the learning that occurs as a consequence of two or more businesses or business processes in dynamic interaction;
- Globalisation has led to an increase in global strategic partners among large and small companies and the building of relationships with officials, distributors and opinion leaders;
- Trade off between market and hierarchy has led to hybrid governance structures such as joint ventures and networks;
- SMEs internationalisation strategies differ from those of larger firms, in terms of the role of the decision maker and the use of networks to overcome constraints;
- While the stage models of internationalisation considered resources, experiential knowledge and commitment issues, they failed to take relationships/networks into account;
- Born Globals and Born Again Globals take relationships/networks into consideration. In the case of Born Again Globals, relationships are important even when they are not active in international markets;
- Internationalisation through networks depends on an organisation's set of formal and informal relationships rather than on firm specific advantages;
- Networks presents the opportunity for inter-organisational learning in relation to internationalisation and can expedite foreign market entry, particularly in the case of high tech SMEs;
- Recognition that internationalisation is affected by multiple influences has led to a contingency view;
- The performance question confronts all firms, domestic and international;

- The relationship between internationalisation and performance is context dependent and the focus should be on the identification of moderators or drivers that produce differential internationalisation-performance effects;
- While there is an array of export performance measures available in the literature, selecting the appropriate measures is highly context dependent and relevant factors need to be considered, such as sector, research methods and relational effects.

It is evident from the foregoing discussion on the literature presented in this chapter that there are many factors influencing SME internationalisation. As internationalisation is a complex process, no existing stream of research could explain all its aspects. Elements of this research has been criticized for ignoring some important subjects and applauded for investigating others. As the logic and assumptions of these approaches differ, it would be too optimistic to hope that a universal internationalisation theory would emerge. As a result there is a convergence of themes in the literature on the key factors involved. These factors can be internal to the firm or external to the firm. However, there has been a tendency in the export performance literature to view exporting predominantly as an internally driven activity, and as a result, relatively few have analysed the influence of external factors on export performance. One key external factor is the role that external relationships play in the internationalisation process and outcomes of SMEs.

Networks, therefore, have an important role to play in the internationalisation of SMEs. It is through this lens this research looks to provide further insight into this complex process. Further discussion of this extant body of literature is presented in the next chapter with a view to understanding the emergence, dynamics and impact of networks on international performance.

CHAPTER THREE - NETWORK THEORY

3.0 INTRODUCTION

This chapter begins with a review of the literature on organisational theory and design in order to reveal the origins of networks as an organisational form. This is followed by a discussion of the theoretical perspectives on network governance. Literature on network fundamentals, definitions, trust, learning, knowledge/information exchange, development, benefits, and drawbacks/limitations of networks is then outlined. The final sections deal specifically with networks in the context of SMEs, internationalisation, performance and capability building. The chapter concludes with an overview of how network theory helps inform international business theory.

3.1 ORIGINS OF NETWORK AS AN ORGANISATIONAL FORM

The purpose of this section is to trace the origins of the network perspective for the study of organisations and to outline some of the main issues in adopting such a perspective. Roethlisberger (1977) believed that organisations and the behaviour in them were such 'elusive phenomena' that one could never hope for a definitive theory in the field. All that one could expect was the benefit of a perspective or a framework that could be used like a 'walking-stick' to support and navigate one's inquiry through the treacherous terrain of organisations (cited in Nohria & Eccles 1992, p. 5). Sustaining Roethlisberger's metaphor, Nohria and Eccles (1992) suggested that a network perspective is a sturdy walking-stick that is likely to hold up well in the intellectual enquiry of organisations. Since the 1950s, the concept of networks has occupied a prominent place in such diverse fields as anthropology, psychology, sociology, mental health and molecular biology (Nohria & Eccles 1992). In the field of organisational behaviour, the concept dates back even further. As early as the 1930s, Roethlisberger and Dickson (1939) described and emphasised the importance of informal networks of relations in organisations. Nohria and Eccles (1992) believed there are three reasons behind the increased interest in the concept of networks. Firstly, the emergence of

what Best (1990) labelled 'the New Competition'. This is the competitive rise during the 1970s and 1980s of small entrepreneurial firms, of regional districts in the USA, Europe and in Japan. This new competition has been contrasted with the old in one important way. If the old model of organisation was the large hierarchical firm, the model of organisation that is considered characteristic of the New Competition is a network of lateral and horizontal inter-linkages within and among firms. A second reason for the increased interest in networks has to do with technological developments. New information technologies have made possible an entirely new set of more disaggregated, distributed, and flexible production arrangements, as well as new ways for firms to organise their internal operations and their ties to firms with which they transact.

The maturing of network analysis as an academic discipline over the last 30 years is a third reason for the increased trend toward viewing organisations as networks. This development was spearheaded in the 1970s by Harrison White and his affiliates, who developed a formal apparatus for thinking about and analysing social structure as networks (Nohria & Eccles 1992).

The concept of the network organisation may be placed in the context of current debates in organisational theory (Baker 1992). A number of organisational theories can be used to explain the emergence of the network organisation. Traditional theories of organising advocated that rational scientific principles could be applied to develop a best way of organising. The so-called classical management theories emerged around the turn of the twentieth century and these included scientific management, which focused on matching people and tasks to maximise efficiency; and administrative management, which focuses on identifying the principles that will lead to the creation of the most efficient system of organisation and management. The behavioural management theories were then developed before and after the Second World War and focused on how managers should lead and control their work force to increase performance. Management science theory was also developed during the Second World War and the focus here was on the use of rigorous quantitative techniques to help managers make maximum use of organisational resources to produce goods and services. Wally et al (1995) concluded that the verities of traditional scientific management based approaches are insufficient to explain the structural changes that were occurring.

An important milestone in the history of management thought occurred when researchers went beyond the study of how managers can influence behaviour within organisations to consider how managers control the organisation's relationships with its external environment. The importance of studying the environment became clear after the development of open systems theory and contingency theory during the 1960s.

Contingency theories proposed that internal structural and administrative elements of the organisation were part of a larger system, which included elements of the environment and the technology of the organisation. The theory is based on two related assumptions, namely that there is no one best way to organise, and that any way of organising is not equally effective (Galbraith 1973). The cornerstone of contingency theory is that in order to become efficient organisations must fit their structures and policies with the characteristics of the environment and technology. The early contingency theory research fell under two broad headings; research concentrating on technology and technological variables (Woodward 1958, 1965; Perrow 1967), and research focusing on environmental variables (Burns & Stalker 1961; Emery & Trist, 1965; Thompson 1967; Lawrence & Lorsch 1969).

Debates started in the 1960s over just what direction organisational structure would take. Some authors such as Burck (1964) and Leavitt and Whistler (1958) argued that computer technology would allow top management to return to a centralised structure since the information needed for decisions about the subsidiary operations could be obtained at a moment's notice. Others argued that only functional areas such as logistics systems and data processing activities would become centralised, but the overall organisational structure would continue to decentralise (Deardon 1967).

According to Kathawala and Lingaraj (1990) it was not until the 1980s that the increase in foreign competition and losses in productivity prompted the US business to start examining itself. Many business consultants, such as Peters and Waterman, argued that a fluid decentralised structure was continuing to replace the rigid centralised bureaucracy in the most innovative companies in order to cure itself and become competitive. However, in any element of operation where control is essential, centralisation will continue to be used as the structural means to carry it out.

A principal tenet of organisational theory is that structure is related to environment (Aldrich & Zimmer 1986) and organisations that fit their environments will perform better and are

more likely to survive than those that do not (Emery & Trist 1965). Burns and Stalker (1961) argued that organisations using a routine technology (low task and work flow uncertainty) and operate in a homogenous stable environment should use a mechanistic form of structure. Those operating a non-routine technology (high task and work flow uncertainty) in a heterogeneous unstable environment should use an organic structure. Network (or organic) structures are better suited to complex, rapidly changing, and turbulent environments than hierarchical (or mechanistic) structures, which do better in stable, simple, routine environments (Burns & Stalker 1961; Mintzberg 1979; Miles & Snow 1986).

Miles and Snow (1986) found that after turbulent times in business environments and rapid technological changes, a unique combination of strategy, structure and management processes that they refer to as the 'Dynamic Network' had emerged. In the dynamic network the major components can be assembled and reassembled in order to meet complex and changing environmental conditions (See figure 3.1)

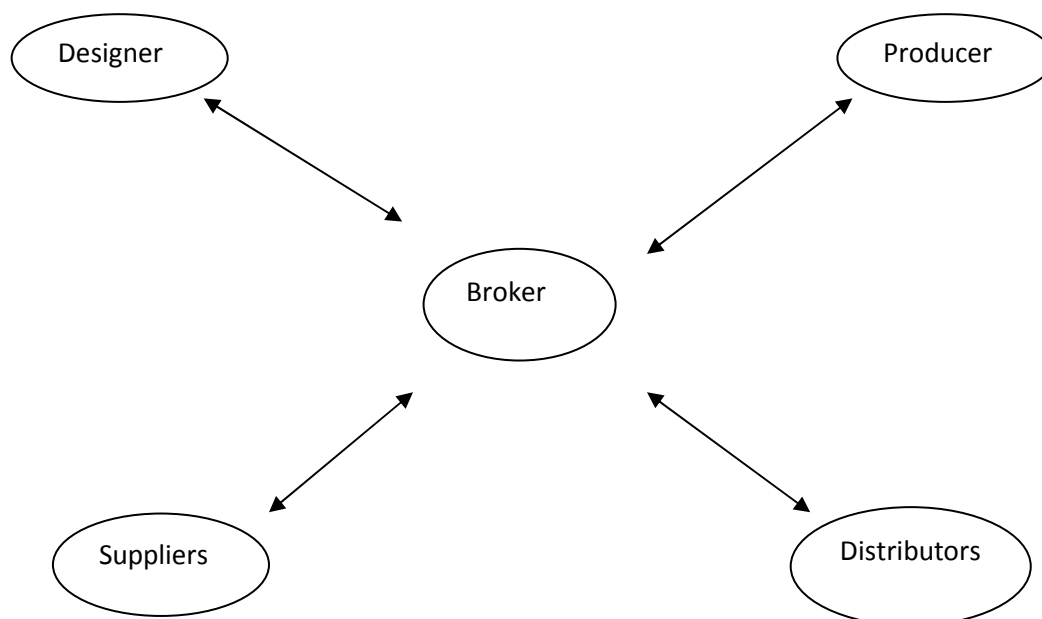


Figure 3.1: Miles and Snow's (1986) Dynamic Network

The characteristics of the dynamic network are summarised for this study in the following table:

Table 3.1: Characteristics of the Dynamic Network.

Characteristic	Description
<i>Vertical Disaggregation</i>	Business functions - product design and development, manufacturing, marketing and distribution, conducted within a single organisation, are performed by independent organisations within a network. Networks may be more or less complex and dynamic depending on competitive circumstances.
<i>Brokers</i>	Because each function is not necessarily part of a single organisation, business groups are assembled by or located through brokers. In some cases, a single broker plays a lead role and subcontracts for needed services. In other cases, various brokers specialising in a particular service create linkages among equal partners. In others, one network component uses a broker to locate one or more other functions.
<i>Market Mechanisms</i>	Major functions are held together in the main by market mechanisms rather than plans and controls. Contracts and payments for results are used more frequently than progress reports and personal supervision.
<i>Full disclosure information systems</i>	Broad access computerised information systems are used as substitutes for lengthy trust –building processes. Participants in the network agree on a general structure of payment for value added and then hook themselves together in a continuously updated information system so that contributions can be mutually and instantaneously verified.

According to Miles and Snow (1986) the dynamic network must be viewed simultaneously from the perspective of its individual components and from the network as a whole. For the individual firm (or component) the primary benefit of participation in the network is the opportunity to pursue its particular distinctive competence. Therefore, each network component can be seen as complimenting rather than competing with the other components. Viewing the network as a whole, each firm’s distinctive competence is not only enhanced by participation in the network, but it is also held in check by its fellow network members.

The phenomena of industry synergy, where there is symmetry between the characteristics and operations of the dynamic network and the features and behaviour of the firms within an industry (or major industry segment), was a concept described by Miles and Snow (1986). The dynamic network model is a far more flexible structure than any of the previous forms as, it can accommodate a vast amount of complexity while maximising specialised competence, and it provides much more effective use of human resources that otherwise have to be accumulated, allocated and maintained by a single organisation.

The logic of the dynamic network model indicates that this flexibility can be achieved largely through vertical disaggregation. Thus an organisation may be able to obtain competitive

advantage by performing only those activities closest to its distinctive competence, contracting with other components of a network for goods or services on an ad-hoc basis and perhaps serving as a broker in yet other areas. Dynamic networks in many industries now operate across national boundaries (Miles & Snow 1986).

Similarly, Hage (1965) described the organic organisational model as being characterised by the ‘adjustment and continual redefinition of individual tasks’ (low formalization) ‘a network structure of control, authority and communication’ (low centralisation). Burns and Stalker (1961) noted that the content of communication in the organic model is information and advice and requires commitment to the tasks of the organisation and emphasises expertise. Also the emphasis on adaptivness in organic models is directly related to the rate of change in technical or market conditions in the environment.

On the subject of organisational environments, Emery and Trist (1965) studied the causal texture of the environment and isolated ‘four ideal types’ of causal texture, approximations to which may be thought of as existing in the ‘real world’ of most organisations. There is an emergence of values that have overriding significance for all members of the field. Thus the notion of collective strategy and network theory may have relevance to Emery and Trist’s Type three and Type four organisations.

The four types of causal texture are briefly described as follows:

Table 3.2 Emery and Trist’s Four Types of Causal Texture

Type	Description
<i>Step One</i>	Relatively unchanging environment with only minor, random changes along the way – organisations need only do their best and opt only for a particular class of local environmental variances (Ashby, 1960). Firms use tactics to survive, are small in size and relate to the economists classical market.
<i>Step Two</i>	More complicated but still placid environment – characterised in terms of clustering goals and noxians (good and bad) are not randomly distributed but hang together in certain ways. Strategy emerges as opposed to tactics – develop distinctive competencies - tend to grow in size and tends to be hierarchical with a tendency toward centralised control and coordination. Relates to economists imperfect competition.
<i>Step Three</i>	Disturbed reactive environment –make sequential choices, but choose actions that would draw off the other organisations. Flexibility requires certain decentralization and also puts a premium on quality and speed of decision at various peripheral points (Heyworth, 1955). Relates to economists oligopoly - necessary to define the organisational objectives in terms not so much of location as of capacity or power to move more or less at will i.e. to be able to make and meet competitive challenge. It can also give rise to situations in which stability can be obtained only by a certain coming to terms between

	competitors, whether enterprises, interest groups, or governments.
<i>Step Four</i>	‘Turbulent Fields’ - Dynamic properties arising from the interaction of identifiable component systems and from the environment itself. Three trends that contribute to the emergence of these dynamic fields: (1) Growth in type three organisations; (2) Deepening interdependence between the economic and other facets of society e.g. legislation and public regulation; and (3) the increased need for R and D. Individual organisations, however large, cannot expect to adapt successfully simply through their own direct interactions – there are some indications of a solution that may have the same general significance for these environments as have strategy and operations for types 2 and 3.

Strategic Choice theorists emphasised the ability of managers to redesign organisations to fit changing tasks and environments. In contrast, population ecologists stressed organisational inertia – the inability to change structures and processes once established. In essence, population ecologists view organisational design as “a wager on fitness that, once placed, consigns an organisation to its fate” (Baker 1992, p. 398). The network organisation evades organisational inertia by its very nature. The network form is designed to handle tasks and environments that demand flexibility and adaptability. Unlike bureaucracy, which is a fixed set of relationships for processing all problems, the network organisation moulds itself to each problem. It adopts itself not by top management, but by the interactions of problems, people, and resources; within the broad confines of corporate strategy, organisational members autonomously work out relationships. This self-adaptability feature led Eccles and Crane (1987) to call the network form a ‘self designing’ organisation. At least in metaphor, the network organisation is a market mechanism that allocates people and resources to problems and projects in a decentralised manner. Like a market, efficiency is assumed. The intrinsic ability of the network organisation to repeatedly redesign itself to accommodate new tasks, unique problems, and changing environments enables such organisations to escape the plight of forms such as bureaucracy, which ossify and become incapable of change.

The concepts of organisation/environment relations and strategic choice have their drawbacks. Strategy, in these cases, is only investigated from the standpoint of the focal organisation and fails to take into account the dynamics that unfold at a population level of analysis (Astley & Frombrun 1983). It is on these grounds that population ecologists criticise the notion of strategic choice (Aldrich 1979). They argued that at a macro level, historical, political, economic, and social factors determine the fate of the whole populations of organisations, so that the actions of single organisations count for little in the long run. Furthermore Astley and Frombrun (1983, p. 582) highlighted that in a corporate environment

characterised by increasing interdependence and intricate networks of linked organisations, “individual strategies are overwhelmed by proactive choice at a collective level”. Thus there is the increasing emergence of structures at a collective action, ranging from informal arrangements and discussions to formal devices such as interlocking directorates, joint ventures, and mergers. From this perspective, response to the environmental determinism of population ecology can be made by recasting the concept of strategy in terms of collective mobilisation of action and resources oriented toward the achievement of ends shared by members of inter-organisational networks, (Astley & Fombrun 1983): hence, the change of focus on strategy from a business and corporate level to the collective level (figure 3.2).

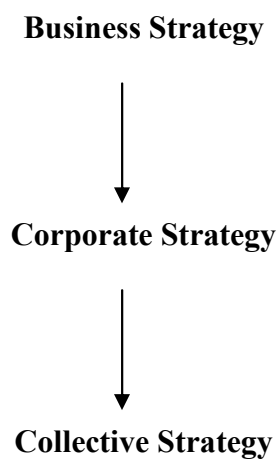


Figure 3.2: Change of Focus on Strategy

A similar point was put forward by social planning theorists Trist (1979), Ackoff (1974) Michael (1973), Vickers (1965) and Schön (1971). They argued that the environment of modern society has become more turbulent as its elements have become densely interconnected and interdependent. Turbulence becomes a problem when organisations act independently, in many diverse directions, producing unanticipated and dissonant consequences in the overall environment they share. The solution according to Ackoff (1974) is ‘interactive planning’ and what Michael (1973) refers to a ‘future-responsive learning’ - organisations can collectively control their shared destination.

Transaction cost theory based on the work of Commons (1934) and Coase (1937) and further developed by Williamson (1986, 1991) provides an understanding of the role of new

technology and coordination costs in fostering structural change in response to changing environmental factors. Transaction costs are the inefficiencies that arise at the interface of activities in the productions and distribution processes. For example, they include the cost of planning, managing and contracting tasks, of monitoring activities and outputs, and of insuring against losses due to corruption and opportunism (Williamson 1975). The Transaction Cost Analysis (TCA) approach to networks is not without criticism however. Thomson (2003) referred to the almost exclusive concentration on opportunistic relationships to the exclusion of cooperative ones, something that is important for networks. This is a criticism made by Ghoshal and Moran (1996) in their defence of 'logic of organisational advantage' as a distinct logic to that of TCA. They further argued that the conception of hierarchy developed by Williams is precisely designed to avoid the opportunism of the market, but that in fact is the kind of hierarchical control envisaged by TCA, which would actually encourage it within hierarchical types of organisational structure.

Similarly, Emery and Trist (1973) advocated the adoption of a 'social ecological' approach to managing inter-organisational relationships. Social ecology draws attention to the proactive communal arrangements that organisations forge as they attempt to supplant the 'exogenous natural' environment (stressed by population ecologists) by a collectively constructed and controlled 'social' environment, which is grounded in human ecology. By joining with others in systems of mutual support, organisations can produce a collectively managed environment that is buffered, at least partially, from the vagaries of the outside environment (Astley & Frombrun 1983). As organisations currently operate in an unstable and complex environment this may go some way to explain why organisations have adopted networks.

The network paradigm has entered into the strategic field over the last few years, making a change in direction towards a relational logic supplanting competitive strategies (Durieux et al. 2000). In the extant literature there is a dichotomy in the field, where researchers either adopt a competitive or a cooperative view (Lecocq & Yami 2002). In Porter's model, the analysis concerns the industry level. The five competitive forces – entry, threat of substitution, bargaining power of buyers, bargaining power of suppliers, and rivalry among current competitors - reflect the fact that competition in an industry goes well beyond the established players. Customers, suppliers, substitutes, and potential entrants are all 'competitors' to firms in the industry and may be more or less prominent depending on the particular circumstances. Competition in this broader sense might be termed *extended rivalry*.

In 1985, Porter extended this model by integrating interdependencies up and downstream generated by value creation. This model remains inadequate to develop a satisfactory strategic analysis identifying sources of performance in an environment composed of networks (Lecocq & Yami 2002). In this model the environment is a given, in the sense that industry structure largely determines a firm's strategy, and the strategic choice is often limited to the limitation of leaders.

The Resource Based View (RBV) was already referred to in Chapter Two in the context of International Business. The RBV considers that firms, more than industry, constitute the relevant level of analysis to explain performance (Rumelt 1984; Wernerfelt 1984; Barney 1991). In this perspective, firms are able to accumulate resources and capabilities, which turn into an advantage when they are rare, value creating, non-substitutable and difficult to imitate (Dierickx & Cool 1989; Barney 1991). Complementarities in resources and capabilities, and the availability of new resources justified cooperative strategies. Since the original research on the RBV, some empirical research has gone further to develop the study of resources in the inter-organisational network to finally consider the network as the relevant unit of analysis (Afuah 2000). Lecocq and Yami (2002) argued that calling the inter-organisational network the relevant level limits the analysis to the description of a situation (the network) in which the firm is already involved. In this case, they contend, projection is negligible since the analysis is reduced to identifying the resources contained in the network. However, research has shown that cooperating with other firms can be an approach to managing internationalisation risks and uncertainties when it comes to resources. Lin and Lawton (2006) confirmed that internationalisation through domestic inter firm networks is positively correlated with a firm's limited non-financial resources, perceived uncertainties and risks associated with internationalisation, and dependence on home partners.

A further strategic model considered here is the relational approach. The relational approach (Dyer & Singh 1998) considers that cooperation and alliance behaviours can increase an organisation's performance and reduce costs and risks. These agreements constitute 'relational advantages' which must be considered, just as physical and financial advantages, in determining the market value of a firm (Preston & Donaldson 1999). In this perspective, the competitive advantage dimensions borrow from both the traditional conception of industrial structure and the RBV. The relational view is criticised for paying attention only to the cooperative dimensions of interactions. Additionally, as noted by Preston and Donaldson

(1999), only relationships with other firms are taken into account, and other types of organisations such as regulatory authorities are not considered.

3.1.1 Organisational Complexity

High performance organisations had a good fit between their structures, the environmental contingency and the information processing requirements (Lawrence & Lorsch 1969). Organisations in more complex environments had a variety of internal integrating devices. So the inherent complexity of the external environment resulted in a more complex structure. According to Baker (1992) the distinguishing factor of the network organisation is the degree of integration whereby all members are highly integrated through formal positions, geographic location and market focus. According to Tiernan (1995) the association between environmental complexity and the need for integration may also offer some degree of explanation for the development of network structures.

Organisational complexity was seen as having three characteristics: numerosity, diversity and interdependence (Huber 1984). Systems theory advocated that these tend to be related to each other. “As a system’s components become more numerous, they become specialised, with resulting increased interdependence”, (Miller 1972, p. 5). Huber (1984) also predicted that major increases in complexity in the post-industrial society will arise from diversity and interdependence. Interdependence, according to Huber (1984) is linked to specialisation. Specialisation results in interdependence because as living systems specialise, they give up certain capabilities and must rely on other system components for the resources that they themselves can no longer provide. In addition, potential increases in physical interdependence may lead to increases in social interdependence (Mesarovic & Pestel 1974; Kahn et al. 1976).

In summary, networks therefore, “have not emerged by chance: they are intimately linked to the arrival of an integrated global market in which firms are no longer constrained by national and, increasingly, even organisational boundaries” (Yoshino & Rangan 1995, p. 52). The strategic logic of alliances lies in the fact that advantages traditionally gained through internal development must now be secured through external networks. Coalitions or alliances are, according to Porter, a “way of broadening scope without broadening the firm by contracting

with an independent firm to perform value activities or teaming with an independent firm to share {value} activities” (cited in Yoshino & Rangan 1995, p. 68)

3.2 THEORETICAL PERSPECTIVES ON NETWORK GOVERNANCE

The purpose of this section is to elaborate further on specific theoretical issues in adopting the network perspective such as networks in the market versus hierarchy mode of governance, the interaction or relational approach as a means of coordinating economic activities, and the integration of competition and cooperation.

This increasing interest in the network construct has been documented by Boltanski and Chiapello (1999). In their study concerning the evolution of the managerial literature between the 1960 and the 1990s, they noted that researchers’ works in the 1990 were focused on the Network Model. As claimed by Castells (1998) the network logic represents a fundamental change as, it is the first time in history that the relevant economic unit is not constituted by a subject, individual (such as the entrepreneur) nor collective (such as the capitalistic class, the firm or the state). Lecocq and Yami (2002) further argued that this consideration, central but even now largely ignored in the management literature, leads to the considerations of the network as a ‘multiple unit’. This also leads to a consciousness of the need to consider the firm in its inter-organisational networks (including multiple affiliations and relational alternatives) while taking into account its interdependence with a focal network.

Neo-classical economic theory argued that all firms are profit maximisers, competing with each other for scarce resources. Williamson (1975) developed the notion that there are two basic ways to compete within such a system – markets and hierarchies. In the ‘market’ model the firm can focus on being efficient within a small part of the economic activity and rely on other specialised firms to supply other parts of the value of a product or service. Thus trusting market forces to discipline all firms and ensures overall efficiency (Brown & Butler 1995). Those firms following the ‘hierarchies’ approach tend to internalise their market functions, performing more of the stages of production and marketing processes within their own organisational hierarchy. Such firms would have been IBM, Philips and General Motors; entirely self sufficient, substantially capable of meeting demand for goods and services internally (Cooke 1998).

Markets versus hierarchy as a mode of governance have been overtaken by a hybrid form (Williamson 1991) or as they are more commonly termed ‘network’ (Powell 1990). Williamson (1991) has conceded that hybrid forms are becoming more popular. The network form (including both internal and external networks) is positioned mid way between markets and hierarchies. In this sense it is neither a pure market transaction nor a traditional hierarchical arrangement (Powell 1990). Table 3.3 below, which is adapted from Powell (1990) Tiernan (1995) and Thomson (2003), provides a summary of the key differences between markets, hierarchies and networks.

Table 3.3: Differences between Markets, Hierarchy and Networks

A SUMMARY OF THE DIFFERENCES BETWEEN MARKETS, HIERARCHIES AND NETWORKS			
Features	Market	Hierarchy	Network
Key Feature	Mechanism to secure economic order and coordination of economic activities without any conscious organising centre that directs it.	Requires some form of overt rule-driven design and direction.	Organized variant involves conscious directive action to establish and sustain the network, while self organized invokes interactions on a non-directive kind that continually reconfigure and evolve.
Normative basis	Contract – Property Rights	Employment relationship strengths	Complementary
Means of Communication	Prices	Routines	Relational
Methods of conflict resolution	Haggling	Administrative	Norm of reciprocity
Degree of Flexibility	High	Low	Medium
Amount of Commitment Among Parties	Low	Medium to high	Medium
Climate	Precision/suspicion	Formal/bureaucratic	Open ended
Actor Preferences	Independent	Dependent	Interdependent
Mechanism of Operation	Price mechanism, competition, self-interest, self regulation	Hierarchically organised/bureaucratic administration/monitoring, scrutiny, interventions	Loyalty, reciprocity and trust

Source: Adopted from Powell (1990) pg 300 and Tiernan (1995) pg 45 and Thomson (2003), pg 22-48.

In opting for a governance structure mid way between markets and hierarchies, organisations have created internal and/or external networks. The chief reason put forward by Tiernan (1995) for organisational experimentation with internal networks has been to reduce transaction costs associated with traditional hierarchy, while maintaining some of the flexibility and fluidity associated with markets.

A number of studies in both the economics and sociology of organisations have analysed a range of ‘networks’ lying at an intermediate stage between market and hierarchy. These

include studies on joint ventures (Ouchi & Bolton 1988; Pfeffer & Nowak 1976; Pfeffer & Salancik 1978), franchising (Rubin 1978; Williamson 1985), sub-contracting (Eccles 1981; Mariotti & Cainarca 1986), federations, associations and cartels (Pfeffer & Salancik 1978; Daems 1983) managed markets (Barney & Ouchi 1983) and networks in general (Thorelli 1986; Powell 1987).

Drucker (1992) in his discussions about managing for the future predicted that business will integrate themselves into the world economy through alliances: minority participations, joint ventures, research and marketing consortia, partnerships in subsidiaries or in special projects, cross-licensing, and so on. The partners will not only be other businesses but also a host of non-businesses such as universities, health-care institutions and local government. The major driving forces behind the trend towards alliances are technology and markets. Alliances require clarity in respect of objectives, strategies, policies, relationships, and people. They also require advance agreement on when and how the alliance is to be brought to an end (Drucker 1992: 16).

There is also the trans-national push of small and medium sized businesses. The vehicle often is not an acquisition or a financial transaction but what the Germans call 'a community of interest': a joint venture, research pooling, joint marketing, or cross licensing agreement (Drucker 1992, p. 27).

3.2.1 The Interaction Approach

The interaction approach draws attention to the relationship as another way of coordinating economic activities besides markets and hierarchies (Johanson & Mattsson 1987). The interaction approach takes the relationship as its unit of analysis rather than the individual transaction. According to Metcalf et al (1992) the interaction model developed by the European Industrial Marketing and Purchasing (IMP) group seems to be the best equipped to deal with the various issues pertaining to buyer-seller relationships. The focus on the IMP model is on the factors, which lead to close relationships between buyer and seller. Turnbull et al (1996) posited that the basis for the interdependence of companies in business relationships is the resources, which they possess. Companies interact with each other and develop relationships in order to exploit and develop their resources (Turnbull & Wilson 1989). In order to do this they seek those companies, which have matching resources.

The neo-classical approach to this problem has been to minimise the complexity of this relationship by under-emphasising the social relations linking the transacting parties. For example, in the classical liberal view, social atomisation is a necessary condition for the desirable orderliness of perfectly competitive market structures (Granovetter 1985). However, this under socialised conception of human behaviour belies the complexity that is characteristic of real world exchanges. As Easton and Araujo (1994) observed:

“Exchange processes are embedded in the dense fabric of social relations and economic exchange is rarely able to rid itself of non-economic baggage such as social exchange, kinship and friendship networks, altruism and gift giving and a host of other psychological and sociological elements not liable to be reduced to the standardised metric of money”

Easton and Araujo (1994, p. 75)

An important benefit of the interaction model is the co-ordination and mobilisation of the company’s portfolio of relationships and the use and enhancement of the resources of both companies through interaction in those relationships that is the basis of enhancing a company’s network position and hence its competitive advantage (Ford et al.1996).

Furthermore, several researchers have linked competitiveness with a company’s ability to develop and manage its array of network relationships (Easton & Araujo 1994). Competition is viewed as being based on conflict, competitive advantage, co-existence, cooperation or collusion. The competition/cooperation issue will be addressed in the next section.

The notion of networks as organisational forms between internal organisations and the market, which are constituted by an intertwining reciprocal relationship, was espoused by Imai and Itami (1984). Networks are not a homogenous form of organisation, but rather a mixture of strong and weak relationships between companies, whose special advantages lie in the fact that their link can always change depending on the needs of the environment. As early as the 1970s, Professor GB Richardson’s research in the area of industrial economics suggested that a network of relationships with other firms is a *sine qua non* for success in the competitive market (Yoshino & Rangan 1995). They further argued that inter-firm linkages between firms and their domestic suppliers and distributors are increasingly giving way to relationships that often cross national boundaries.

3.2.2 Cooperation Vs. Competition

The concept of 'coopetition' is emerging from attempts to integrate competition and cooperation. As noted by Nalebuff and Brandenburger (1997), it emerges from the need to cooperate with competitors, and also customers and suppliers, in order to generate more value. Lecocq and Yami (2002) argued that many of the various contributions which aim to define competition and cooperation present either a simple conception lacking in realism, or a complex description (based on the overlapping of both behaviours) with few guidelines for strategic action.

In the first perspective, competition and cooperation are considered as alternative behaviours. Thompson and Mc Ewen (1958) identified four relational strategies to deal with the environment. While three of them concern cooperation, the fourth is competition. In this approach firms are either partners or rivals at any given point in time. Emery and Trist (1965) adopted a similar point of view, suggesting that firms pass from competition to the 'maximising of cooperation' when their environment becomes more turbulent.

An alternative perspective is that competition and cooperation are 'located' at different levels of an economic game. Bourqui (1990) set competition at two levels: an external competition (the firm or network facing its environment), and an internal competition (inside the firm or network in order to recover an important part of the value added generated). Sharing a similar point of view, Nalebuff and Brandenburger (1997, p.33) claimed that "creating value, a bigger pie, comes fundamentally under cooperation and involves customers and suppliers; however, dividing the pie is fundamentally competitive". Thus, the inter-organisational network is considered as a homogeneous entity maximising cooperation. Gomme – Casseres (1994) considered that competition takes place between networks. On the other hand, Lecocq and Yami (2002) argued that this approach denies a firm's independence towards the network, and makes the organisational level seem less relevant for the analysis. The involvement in an inter-organisational network does not mean a simple abandoning of the firm's autonomy and strategic initiative.

Other authors suggested considering competition and cooperation as two facets of an economic game, implying the existence of an optimal trade-off. Thus for Teece (1992, p.1) "the challenge for policy analysts and managers is to find the right balance between competition and cooperation".

Another alternative view is that rivalry and cooperation are two elements that are fundamentally opposed, but cannot be treated independently from one another. As stressed by Perroux (1973) the struggle/cooperation relationship is the core of economic exchange, and confrontation of actors implies a contradiction of interests. Das and Teng (2000) insisted on the temporal dimension of both phenomena in economic interaction. For example, the strength of competitive tension is dependent on the development stage of a partnership.

Finally in the last approach, competition and cooperation are not opposed to one another. As stressed by Rebiere (1994), cooperative strategies do not aim to supplant competitive confrontation. Cooperation does not contrast with confrontation, but with autonomous action

In spite of the common assertion of competition/cooperation dialectic between organisations, strategic models remain unable to analyse this dialectic (Lecocq & Yami 2002). One reason for this is in the concepts used by strategic models. As noted earlier, competition and cooperation are interaction forms which have been frequently opposed to each other in the literature, although several authors stressed that they are fundamentally overlapped. Lado et al (1997) argued that both notions are very different from a philosophical point of view, and even their representation is paradoxical, so that in spite of attempts to consider competition and cooperation as overlapping concepts, authors tended to stress their differences. Future research in this area needs to take account of the interdependences between organisations, rather than just their interactions.

3.3 NETWORK FUNDAMENTALS

Using the network perspective as a framework to guide the discussion, several key elements of this perspective warrants further elaboration in the context of this study. Consequently, the concept of integration, organisational size, the role of trust, learning and knowledge/information exchange are dealt with in this section.

3.3.1 Integration

The network organisation is a specific organisational type, but the mere presence of a network of ties is not its distinguishing feature (Baker 1992). All organisations are networks – patterns of roles and relationships – whether or not they fit the network organisation image. Organisational type depends on the particular pattern and characteristics of the network. For example, a network characterised by a rigid hierarchical subdivision of tasks and roles,

vertical relationships, and an administrative apparatus separated from production is commonly called a bureaucracy. In contrast, the network is characterised by flexibility, decentralised planning and control, and lateral (as opposed to vertical) ties is closer to the network organisational type. The chief characteristic of a network organisation is the high degree of integration across formal boundaries.

For a network organisation, integration covers vertical and spatial differentiation as well as horizontal differentiation. Considerations of organisational integration are often confined to co-ordination and interaction between horizontal units such as production, marketing and research and development. Lawrence and Lorsch's (1969) classic study of differentiation and integration is a case in point. To define and study a network organisation, the concept of integration must be extended to include interaction across vertical boundaries (hierarchical levels) and across spatial boundaries (multiple geographic locations) as well.

Two key principles of organisational design and networks, differentiation and integration were the focus of a study by Baker (1992). Differentiation refers to the formal division of an organisation into ranks, functions, departments, work teams, and so on. It includes vertical differentiation such as hierarchical levels, horizontal differentiation such as functional areas, and spatial differentiation such as multiple locations. Integration refers to the degree of co-ordination (or, in a broader sense, interaction) among units, however differentiated. The critical distinguishing feature of a network organisation is a high degree of integration. In an ideal-typical network organisation, all members are well integrated: formal categories or groups such as formal position, geographic location, and market focus are not significant barriers to interaction. Interpersonal ties of all types - task related communication, advice, socialising, are as easily established between as well as within formal groups or categories.

3.3.2 Organisational Size

Organisational characteristics both influence and shape social interaction. As system size increases, the expected number of contacts per person increases at a multiplicative rate, but time and energy constraints eventually dampens the effect (Mayhew et al. 1972). But as group size increases, the probability of out-group ties decreases (Blau & Schwartz 1984). Suggesting that it is increasingly difficult to sustain integration as an organisation grows and differentiates.

Size also influences integration via its relationship to differentiation. Organisational size is positively associated with the extent of vertical differentiation (more layers), horizontal differentiation (greater division of labour and more functional specialisation), and, though the evidence is mixed, with spatial differentiation (more locations) (Blau & Schoenherr 1971; Mayhew et al. 1972). The units formed by differentiation can become loci of in-group biases, impeding the integration of the organisation. Lawrence and Lorsch (1969) documented that members of different departments develop divergent emotional and cognitive orientations that can obstruct the formation of interdepartmental ties.

Similarly, geographic separation can permit the emergence of divergent subcultures and decrease the likelihood of contact (Mayhew et al. 1972; Blau & Schwatz 1984) so that geographic dispersion, which raises the costs of (intergroup) interaction, can decrease out-group ties and increase in-group ties. In short differentiation can create favourable circumstances for the emergence of in-group biases.

Finally, in a study of the effect of firm size on firm behaviour and firm performance in strategic networks, networking width (number of networking partners) outside the SME network was found to be an important interaction term for performance implications from pursuing corporate entrepreneurship (Wincent 2005).

3.3.3 Network Management

Normally, a simple exchange between organizations is not sufficient for a relationship. The two organizations involved need to synchronize their activities so that the activities of both organizations are in tune with each other (Mohr & Nevin 1990). Such coordination includes the establishment and use of formal roles and procedures and the utilization of constructive conflict resolution mechanisms (Ruekert & Walker 1987; Helfert & Vith 1999).

Drawing on a subdivision of managerial tasks widely used in general management literature (Carroll & Gillen 1987); four different cross-relational tasks can be identified.

- **Planning.** The targeting of a desirable state in the future involves internal analysis (resources, strength, and weaknesses within the company), network analysis (quality of external contributions, fit to internal resources, strategic and resource fit within the

network), and environmental analysis (competitors, general technological and market developments). These generate a better understanding of a company's internal resource situation as well as more realistic expectations concerning partners' contributions.

- **Organizing.** The contributions of each party to achieving the plans must be assigned to specific partners. Also, resource allocation to specific relationships needs to be specified as well as the ways of communicating between people dealing with relationships inside the firm. Furthermore, adaptation issues need to be addressed, i.e., the degree to which the focal company is able and willing to meet an individual partner's needs. It is necessary to evaluate this from a network perspective because adaptation to one partner's requirements may mean not being able to adapt to other (potential) partners' requirements.
- **Staffing.** Personnel need to be allocated to specific relationships in tune with planning and organizational needs. This network management task involves guidance and coordination of employees involved in relationship management activities. Conflicts between employees can occur and must be solved when several relationships compete for the same resources within a company.
- **Controlling.** Controlling is both the final and (through a feedback loop) the first stage of the management cycle. Control activities can be internally oriented (e.g., contribution of personnel, quantity and quality of communication activities) as well as externally oriented (e.g., contributions of external partners or performance of the network as a whole).

Coordination is related to boundary definition and reflects the set of tasks each party expects the other to perform. Narus and Anderson (1987) suggest that successful working partnerships are marked by coordinated actions directed at mutual objectives that are consistent across organizations. Pfeffer and Salancik (1978) suggest that stability in an uncertain environment can be achieved via greater coordination. Without high levels of coordination, Just-in-Time processes fail, production stops, and any planned mutual advantage cannot be achieved. Participation refers to the extent to which partners engage jointly in planning and goal setting. When one partner's actions influence the ability of the other to effectively compete, the need for participation in specifying roles, responsibilities, and expectations increases. Anderson et al. (1987) and Dwyer and Oh (1988) suggest that

input to decisions and goal formulation are important aspects of participation that help partnerships succeed. Joint planning allows mutual expectations to be established and cooperative efforts to be specified.

While network researchers have emphasized the importance of a firm's links and access to their networks' resources in influencing third parties (Burt 1992; Anderson et al. 1994; Zaheer & Zaheer 1997), little has been written about the nature of these connected business relationships. The relationship management research suggests that specific relationship practices differentially impact relationship qualities and performance (Dwyer et al. 1987; Morgan & Hunt 1994). An interesting question that remains is how a firm's relationship management practices shape the qualities of its connections and its ability to access their resources and, ultimately, influence its attractiveness to others in the market. Based on the relationship management literature, an important issue in the process is network sensing.

Network sensing is defined as the degree to which a firm actively seeks information on new alliance partnership opportunities. Because opportunities for competitive advantage can be found through network relationships (Burt 1992; Anderson et al. 1994; Achrol & Kotler 1999), firms are constantly in search of new network partners, especially those that can provide unique and complementary resources. In the context of the currency trading banking network, Zaheer and Zaheer (1997) found a strong positive relationship between a bank's alertness, or the number of contacts it makes, and the frequency with which other banks contact it.

3.3.4 The Role of Trust in Networks

Without a notable dimension of trust, concepts like networks, self-organisation, or loose coupling seem to promise only little efficiency (Eberl 2004). Consequently, trust is even being considered as a strategic competitive factor. Trust has emerged as a central theme not only in network research, but also in international strategy research, particularly since Madhok's influential article published in the *Journal of International Business Studies* in 1995 (Zaheer & Zaheer 2006). That paper laid out the structural and social dimensions of trust, and used trust as an explanatory mechanism for how and why ownership might not translate into control or into perceptions of equity in the context of international joint ventures (IJVs).

According to Möllering et al (2004), there is a vast amount of research on trust in inter-organisational relationships, especially when these are referred to as partnerships or alliances. Again, competitiveness is at stake as firms are 'co-operating to compete' (Faulkner 1995). There are, however, conceptual difficulties concerning the notions of individuals trusting an organisation (rather than another individual) and organisations trusting each other. The unresolved question here is to what extent trust can be generalised and institutionalised beyond the momentary state of mind of the individual (Currall & Judge 1995). Also, it is recognized that inter-organisational trust is especially dependent on and mediated by the institutional framework in which the relationship is embedded (Zucker 1986; Lane & Bachmann 1996; Bachmann 2001). This concerns legal frameworks, notably contract and property laws, as well as the socio-cultural background (Child & Möllering 2003). It has been noted that trust is crucial but also most problematic in international co-operation: the partners come together with different goals and personalities, as members of different organisations and different institutional backgrounds and may have very limited knowledge about each other initially (Child 1998).

However, in the last decade researchers have still barely begun to explore the related idea that trust may differ systematically across cultures, and thereby present significant challenges for both cross-border and comparative research, as well as practice, in a broad range of international management areas, from market entry and entry modes to foreign acquisitions, and the management of subsidiaries, customers, and suppliers overseas (Zaheer & Zaheer 2006). Chua et al (2009) drew on Western social science concepts and methods to elucidate the differences between American and Chinese cultures in the configuration of trust in managers' professional networks. They found that the social structure of trust in Chinese professional networks differs from that in American professional networks in ways consistent with arguments about familial collectivism and observations of Chinese networking behaviour. Specifically, affect (from the heart) - and cognition (from the head)-based trust was more intertwined in Chinese executives' network relationships than in those of their American counterparts. Whereas Chinese managers had more affect-based trust in those on whom they economically depend, American managers had less affect-based trust in such individuals. Also, American managers were more likely than Chinese managers to derive affect-based trust from friendship ties. Finally, embeddedness appeared to operate differently for Chinese than for Americans in that it increased cognition-based trust for Chinese

managers but not for American managers (Chua et al. 2009). In a significant paper on cross-border alliances, Arino et al (2001) pointed to national differences in value systems, culture, and institutions that are likely to influence initial trust (or 'relational quality') between partners. They also note that alliance partners from certain nationalities may trust their counterparts to greater or lesser degrees, depending on the nationality of the counterpart.

Eberl (2004) used game and attribution theory to illustrate that trust as relationship phenomenon is developed on the basis of emotional bonding between interaction partners. Whether such bonds are recognised by the interaction partners depends on attributional processes. This paper demonstrates that empirical research indicates that the amount of relational messages used in the dynamic process is an indicator that can lead to the attribution of an emotional relationship quality. From the perspective of organising, Eberl argued that trust is especially relevant as a moderator variable, which facilitates self-coordination. Theoretical considerations suggest that self-coordination as a substitute to hierarchy is especially required in situations with high task ambiguity and low measurability of performance. Under such circumstances, trust is a crucial factor to keep in mind when implementing organisational measures. However, the task of organising becomes extremely challenging because mutual influence between trust and self-coordination must be taken into account. This paper shows that trust is on the one hand a requisite for successful self-coordination, and on the other hand the development of trust requires a certain amount of self-coordinating autonomy from the start. Eberl concluded by saying that that the development of trust can be encouraged through organisational measures, which a) increase the interaction frequency, b) call for symmetric dependences, c) enrich the multiplexity of relationships, d) reward cooperative behaviour, and e) lead to cultural changes concerning the fundamental willingness to trust.

The duration and complexity of the relationships in cooperative forms of internationalisation carry with them the danger of opportunistic behaviour for all cooperation partners (Williams 2007). In cooperative arrangements, short-term gain is sacrificed for the sake of a joint, long-term advantage. The resulting mutual economic dependency amidst simultaneous, reciprocal behavioural uncertainty (double contingency, see Luhmann 1989) means that co-operations between companies are complex arrangements that are threatened by social dilemmas such as the prisoner's dilemma (Le & Boyd 2006).

Wicks and Berman (2004) emphasised 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, the authors 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 relationship between the choice firms make about how much to invest in trust and performance outcomes.

Trust in inter-organisational relationships increases relationship investments, communication, and performance and reduces costs and opportunistic behaviours (Selnes & Sallis 2003; Smith & Barclay 1997). In the absence of trust, conflict between collaborating firms may prevent future investments or even lead to the withdrawal of existing investments (Inkpen & Beamish 1997). Mutual trust functions as a safeguarding and controlling mechanism that promotes information sharing and reduces collaborating firms' incentives and propensity to engage in opportunistic behaviours (Lane et al. 2001)

According to Andersen and Buvik (2002) - the relationship view takes a co-operative approach towards inter-firm interaction that focus on the quality of the relationship (Dorsch et al. 1998, Madhock 1995). If the focal firm has to select between two or more potential exchange partners, the perception of goal compatibility, trust and performance (Harvey & Lusch 1995) of the different candidates are likely to be important indicators. Such types of information, and in particular concerning goal compatibility and trust, are most likely to be based on direct experience (Mooreman et al. 1993; Morgan & Hunt 1994). From a network perspective, these ideas are important because they suggest that the context of trust, which can differ systematically across business environments, exerts an important influence on the relationship between the degree of trust and performance.

3.3.4 Network Learning and Knowledge/Information Exchange

Researchers of business networks (Ford 1980; Gadde & Mattson 1987) have transposed the social exchange perspective on social networks (Emerson 1972; Cook & Emerson 1978) to business networks (Anderson et al. 1994). Social exchange theory considers exchange relations as a dynamic process (Hallen et al. 1991), and it can be used as a framework to understand buyer-seller relationships (Dwyer et al. 1987; Blankenburg-Holm et al. 1999).

Using social exchange theory business networks can be defined as follows; “as a set of two or more connected business relationships, in which each exchange relation is between business firms that are conceptualised as collective actors” (Emerson 1981, p.71). The knowledge developed within a relationship with a counterpart is unique, because it is shaped by information transferred through connected relationships (Chetty & Eriksson 2002). The more partners interact the more information they bring from their respective connected relationships into the focal relationship. Networks provide access to various sources of information thus offering more opportunities to learn than relying on knowledge from within the firm (Grabher 1993). Larson (1992) found that companies and individuals consider themselves as members of a network within a broad industry framework. Through this industry framework members acquire ideas, influences, or information about the surrounding network that would otherwise be unobtainable (Granovetter 1973; Bonaccorsi 1992).

Eriksson and Chetty (2002) focused on the knowledge a partner in a dyadic relationship had of the other partner and of their respective business network relationship. The results from their study show that the lack of foreign market knowledge in the ongoing business is determined both by the firm’s absorptive capacity generated in dyadic relationships with foreign customers and the customer’s network. The dyadic and network absorptive capacities, however, appear to be used differently in the ongoing business. Dyadic absorptive capacity seems to decrease the lack of foreign market knowledge, whereas customer network absorptive capacity seems to increase it.

Floren and Tell (2004) found that learning in networks of small firm owner/managers is based on trust and has emergent prerequisites. These prerequisites are reciprocity between learning actors, the learning actors’ receptive and confronting capacity, and the transparency of the dialogue in the networks. Over time these prerequisites develop and create better opportunity for higher level learning.

Soh (2003) argued that a firm with more efficient access to other firms in the market would acquire the competitive information about other firms earlier, gaining a greater window of opportunities to create or to enhance its own products before its competitors. The findings of this study indicate that the firms that have equal inclination to form new alliances are the ones that leverage their direct ties by discreet choice of partners who have better access to others are more likely to enjoy better new product performance (Dubini & Aldrich 1991).

Furthermore, increasing information access to facilitate reciprocal relationships with direct partners is likely to enhance performance (Soh 2003).

The development that takes place within the exchange relationship becomes stored in the firms as part of the ongoing activities that result from routines (Nelson & Winter 1982). The firm's past experiences influences such routines and they are adapted as the firm gains new knowledge. These routines and capabilities are often referred to as tacit knowledge, which is complex and difficult to measure (Nelson & Winter 1982; Dyer & Nobeoka 2000). When firms can leverage the capabilities of other firms they can do many tasks that they cannot achieve on their own (Nelson & Winter 1982). At the firm level the formation of structures and routines for internationalisation occurs gradually as a firm incorporates experiential knowledge (Eriksson et al. 1997). Although firms can learn incrementally they will have large stepwise learning experiences when substantial changes are made to their routines (Argyris & Schon 1978). While learning these new routines a great amount of trial and error is involved as the firm overcomes obstacles in its search for effective performance (Nelson & Winter 1982).

An example of experiential knowledge generation within a business exchange relationship is the domestic supplier's use of the foreign customer as a bridgehead for expansion in the foreign country (Johanson & Mattson 1988). A supplier who has integrated routines for using the customer as a bridgehead has also learned how to develop international business in the foreign market (Blankenburg-Holm et al. 1999). The processes leading up to this learning experience has become embedded in the routines of the firm as ongoing activities (Nelson & Winter 1982). Such a learning process takes a considerable amount of effort, and requires the investment of resources. Previous studies (Nelson & Winter 1982; Cohen & Levinthal 1990) have shown that for an organisation to become effective at learning it has to develop routines that enable it to develop, store and apply new knowledge. Firms acquire routines and capabilities when they have learnt certain distinctive skills compared to similar firms (Nelson & Winter 1982). Madhok (1997) asserted that by acquiring experiential knowledge a firm obtains superior capabilities, which are costly and difficult for others, such as competitors, to attain. Conversely, according to Eriksson et al (1997) the lack of experiential knowledge is costly for the firm. They identified three kinds of experiential knowledge, which are: lack of business knowledge (referring to local customers and their surrounding business context of competitors, other suppliers, and other market conditions), lack of institutional knowledge

(referring to institutions, norms, culture, values, and language in the foreign setting), and lack of internationalisation knowledge (an antecedent to lack of business and institutional knowledge). The third of these, experiential knowledge, internationalisation knowledge, is the accumulated stock of knowledge of how to go international, the firm's stored routines on what is important to do and what is important to avoid as the firm continues its incremental resource commitments in the foreign market.

Anand and Khanna (2000) found that as firms gain more experience in collaborating with other firms they learn to create more value in the relationship. Having gained internationalisation knowledge means that the costs for further expansion are reduced, and this will lead to higher value. Consequently, the more a supplier uses the customer as a bridgehead, the higher the supplier value creation. Kalwany and Narayandes (1995) and Blankenburg-Holm et al (1999) show that the relationship building leads to increased profitability. Blankenburg-Holm et al (1999) show how firms create value by interacting in business network relationships to organise and share an unbounded structure of interdependent activities. Normann and Ramirez (1993) coin the term 'value-creating system' to show how a constellation of firms combines their efforts to create value.

Blomstermo et al (2004) investigated the effects of firm's internationalisation experiential knowledge on the perceived usefulness of network experiential knowledge and performance. The analysis shows that the usefulness of network experiential knowledge is a complex matter. The resulting structural model supports that the usefulness of networks experiential knowledge increases performance and that internationalisation experiential knowledge increases both the perceived usefulness of network experiential knowledge and performance.

3.4 UNIT OF ANALYSIS IN THE NETWORK APPROACH

After analysing the theoretical fundamentals of the network perspective, the next question to address is the appropriate unit of analysis within the network approach. The answer to this depends on the research angle favoured by particular researchers. Easton (1992) described four different angles in the research of industrial networks. The emphasis can be on the structures of networks, on networks as processes, on relationships between actors, or on the position of a focal firm within a network. Common to them all is the use of three interrelated basic classes of variables: actors, activities and resources.

The 'network as structure' angle is based on the conclusion that a network structure must exist as a corollary of the interdependence of firms (Mattson 1985; Easton 1992). Firms are the elements of these structures and develop different traits depending on the structure. Interdependence, structure and heterogeneity are all positively linked. Links of different strength between elements can be determined: 'dense' parts of the network correspond to clusters of firms with relatively strong relationships.

'Network as processes' is a second angle, used by researchers working within the network approach (Hakansson 1987; Easton 1992). The main feature in the 'network as process' camp is the important role change plays in networks. These are not static but continuously modify due to transactions within the network and events external to the network. While a network is changing, it is at the same time stable because of the relationships established in the past (Gadde & Mattson 1987).

Resources committed to the relationship and bonds strengthened between the firms over time result in tough network links that are hard to break. The third angle within the network approach is 'networks as relationships' (Easton 1992), which shares many ideas and concepts with the interaction approach outlined earlier in this chapter. In contrast with the interaction approach, research in this context deals with more than two parties of a dyad at a time (Meyer 1998). Relationships as distinct from interaction episodes, are more often long-term and of a more general nature.

'Network as position' focuses upon the individual actor rather than the network itself (Easton 1992; Henders 1992). The position concept provides 'both means and ends of strategic actions' (Johanson & Mattson 1992, p. 206). The 'network as position' goes beyond the interaction approach because an analysis of relationship management always takes other relationships into account, and because the focal relationship is seen as a "conduit to other relationships through which resources may be accessed" (Easton 1992, p. 26)

Irrespective of the unit of analysis, Lecoq and Yami (2002) stressed the importance of defining 'arena boundaries'. For example in Porters Model, industry constitutes the relevant scope for a given firm. The concept of the 'organisational field' is proposed, and the organisational field definition is in the tradition of the one proposed by Fligstein (1990). It is a matter of interdependences (rather than only competition) between firms in a space delimited by initiatives taken by organisation and by the representation they made of

themselves and their interdependencies, or in other words, by the perception of their role in the environment. Lecocq and Yami (2002) stated that the organisational field assumes an objective character, when one looks at the resources held by the firms and the outputs that are generated. But it also assumes a subjective character when it is built by actors' behaviour trying to reciprocally evaluate each others' potential actions. By identifying important actors (which means those with whom an organisation feels strongly interdependent), a firm forces them to recognise it as well. This enactment phenomenon (Weick 1977) leads to the institutionalisation and stabilisation of the organisational field. Lane and Maxwell (1996) considered that fields are structured and organised around 'artefacts'; products and services manufactured and exchanged by organisations, but also laws, people and charts books. The existence of an organisational field is established by the mutual recognition, around artefacts, of interdependence between various organisations. Actors share a conception of legitimate action. The organisational field has its main function to promote stability. However, organisational field boundaries are likely to evolve under pressure from different kinds of organisation, such as firms and regulatory authorities (Lecocq & Yami 2002).

Thus the firm's relevant scope (which means its organisational field) is composed of the main organisations and artefacts (emblematic laws, symbols, values or people) with which it is interdependent, as well as its constituent parts, which are themselves interdependent. Lecocq and Yami (2002) defended the idea that value arises from the management of interdependences between organisations and artefacts in the field. This approach suggests that the relevancy of strategic analysis depends on the understanding of interdependencies between field entities.

3.5 NETWORK DEFINITIONS

Network studies appear across a number of disciplines, for example in marketing (IMP group) and in entrepreneurship (Granovetter 1973; Curran et al. 1993). As a result the definitions for a 'business network' vary. However, as defined by Axelsson and Easton (1992, p.154), a network involves "sets of two or more connected exchange relationships". Following from this, markets are depicted as systems of social and industrial relationships among, for example, customers, suppliers, competitors, family, and friends. According to the network perspective, the nature of relationships established between various parties will

influence strategic decisions, and the network involves resource exchange among its different members (Sharma 1993).

Mitchell (1969) defined networks as “a specific type of relations linking a defined set of persons, objects and events” (cited in Paasche et al. 1993, p.175). The key elements in this definition are (1) specific types of relations, i.e. a network has some targets, it is not a general loose group of activities or events, (2) defined set of..., i.e. the participants to the networks are known, and (3) persons, objects and events i.e. a network can consist of different kinds of activities and actors. They do not have to be enterprises only, but also individuals and institutions can operate in the same network (Hyvarinen 1996).

In general, definitions of networks broadly relate to groups of enterprises that have combined their talents and resources. For example, the Australian Manufacturing council (AMC 1990, p.54) defines a network as the “coming together of a group of enterprises of whatever size, to use their combined talents and resources to achieve results which would not be possible if the enterprises operated individually”. Buttery and Buttery (1992) further emphasized the importance of being involved in a long-term relationship.

Nooteboom (1999) defined a network as a pattern of more or less lasting linkages between firms or divisions within firms (departments, subsidiaries). According to this definition networks can exist within a firm, between firms and combinations of them. The linkages can be uni- or bi-directional, representing flows of products (goods and services), sharing of resources, relations of ownership or other forms of control, line of communication and co-operation. Nooteboom (1999) identified three types of linkages:

- Vertical – constituting flows of products (goods or services) from suppliers to users, in intra-firm value chains or inter-firm value systems (Porter 1985);
- Horizontal - where similar, competing products (substitutes in consumption) are pooled to share a common resource of production or distribution, in a scale strategy;
- Diagonal – or diversified, where dissimilar products, which may be complimentary in research, marketing, or distribution, are pooled to share a common resource.

3.5.1 Types and Forms of Networks

The form and structure which a network takes varies according to the different types of co-operation envisaged by the participating firm, each with different costs and benefits and varying levels of interaction and dependence on external entities. A review of the literature highlights a number of network forms. O'Doherty (1998) identified the main categories of networks as follows:

Informal and unorganised Networking: This is the most basic form consisting simply of firms helping other firms. By definition, this does not require any form of conscious facilitating or brokering; even though there may be room for some type of third party assistance for awareness rising to nurture habits of mutual help.

Membership-Based Networks: This includes traditional industry associations where members pay dues and commit themselves to a certain level of joint problem solving, but where their business success does not depend significantly on the actions of other members. While getting firms to commit to this level of interaction is not easy by any means, the relative lack of interdependence makes this type of co-operation easier to organise and facilitate than more closely-knit networks.

Customer-Supplier Networks: This involves a number of supplier firms co-operating with each other in meeting the needs of a 'vertical' customer, who often sets up and facilitates the collaboration.

Independent Networks of Firms: These are small, formal groups of sometimes competing firms who carefully select each other and agree to co-operate significantly with each other (often at a high level of trust) in 'horizontal' networks, in order to achieve some benefit not available to them independently. Examples include: co-production networks where firms co-operate in manufacturing components, assemblies or finished goods; co-marketing networks where firms jointly market their products; learning networks in which firms seek to learn collectively about some complex changes essential to improving their competitiveness; research networks in which firms pool resources to develop a new product or process.

Development Networks: Bilateral, organisational or personal, regular and purposeful contacts between SMEs or entrepreneurs. No business relationship exist; it is enough that entrepreneurs openly discuss things that have been experienced as important. The difference

between this and informal discussions of entrepreneurs is that in a developmental circle the meetings are regular. This kind of cooperation aims at learning from each other and is considered mutual mentorship within a group (Vesalainen et al. 1999).

Strategic Alliances: This is a coalition of a number of organisations intended to achieve mutually beneficial goals (Clarke-Hill et al. 1998). A distinction can be made between vertical and horizontal alliances. Vertical alliances focus on supplier-manufacturer relationships (co-production networks) or on manufacturer-distributor relationships. These alliances can include Customer-Supplier networks involving a supply chain of firms cooperating with each other in meeting the needs of a mutual customer who often sets up and facilitates the collaboration. Horizontal alliances consist of relationships between similar firms in the same industry, retailers for example (Reijnders & Verhallen 1996). According to O'Doherty (1998) a strategic alliance is a 'hybrid', somewhere between a network and a partnership. They also provide an alternative to vertical integration.

Joint Ventures: This network is a jointly owned company, which is set up by the participants to manage certain product development activities. Cooperation of this type is strategic by nature as the partners are usually investing considerable sums of money in the joint venture in order to ensure its proper function. The main outcome of this kind of cooperation is the ability to find and seize new business opportunities.

Rosenfeld (1999) divided networks into hard networks – small, closed, often formally allied group of firms working together toward common bottom line objectives; and soft networks – usually a looser, membership based group formed to address generic issues, lower costs, learn or access information. Similarly, McNaughton and Bell (2001) refer to hard networks as a formally brokered network, usually consisting of five or more firms in the same region. Such networks are distinct from 'soft' networks such as industry associations.

Imai and Baba (1991) identified three additional types of network forms in the realm of international trade: (1) traditional multi-domestic; (2) global; and (3) cross border networks.

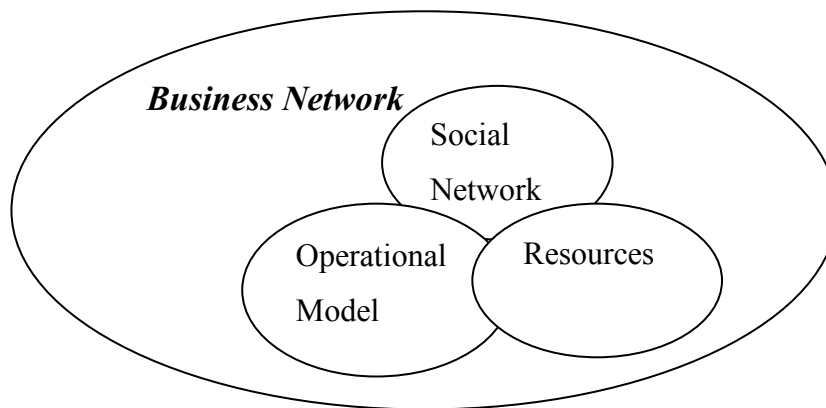
Traditional multi-domestic: these represent an incremental approach to be found in traditional manufacturing sectors (such as, clothing, food, petrochemicals and steel industries), as well as in agriculture, housing, and personal services. Imai and Baba (1991) postulated that firms in this category internationalise mainly in response to changes in relative factor prices. The

influence of the latter remains important in traditional sectors, as exemplified in the case of foreign direct investment, because of low relative labour costs, the differential price of energy and physical space constraints in home countries. Most technology comes from suppliers of equipment and materials. Firms in this type of network rely on localised information for decision making, and the decision may be biased by an information context related to a specific time and place.

Global networks: this comprises planned internationalisation on a large scale as in the Porter-type models (Porter 1986). The global strategy is to think of the world as one market, instead of a collection of national markets, and co-ordinate world wide R and D, marketing, production and distribution in order to attain efficiency in the overall 'global factory' system. Imai and Baba (1991) explained that firms construct sophisticated information structures through hierarchies. Armed with information technology, the localised information of the satellites is transferred to the central database file. Both the centre and the satellite have access to the file. For the purpose of global configuration and co-ordination (Porter 1986), this type tends to be accompanied by a centrally managed strategic calculation, globalisation decreases business risks and uncertainties. In spite of these obvious business merits, globalisation, according to Imai and Baba, seems to entail some problems: (1) formalised information (such as, numeric data and documentation) accessible at the centre file may fail to provide in-depth local business contexts, and (2) the hierarchical control may fail to scan contingent business opportunities.

Cross-Border Networks: These constitute a type of nascent international network, which is expected to transcend traditional modes of 'markets' and 'hierarchies', and as a result, fit with the overall network theory. Imai and Baba (1991) argued that these types of structures often permit the development of quasi-autonomous divisions. This type of network takes the form not only of joint ventures but also that of long-term collaboration or co-operation (such as, cross-licensing, subcontracting and joint R and D). The cross border networks differ in an essential way from the simple global strategy, which tries to achieve complete centralised management in the world market. At the same time they also differ from the traditional multi-domestic strategies in that the cross border networks stresses the importance of information exchange between the constituent regional organisations, and then of the establishment of regional complexes with cross-regional linkages and boundary adjustments (Imai & Baba 1991).

Social Networks: The individuals in a firm will have a substantial impact on the internationalisation as close social relationships with other individuals impact the interest of going abroad (Holmlund & Kock 1998). Social networks have been pointed out as extremely important for entrepreneurs (Aldrich & Zimmer 1986; Greve 1995; Johansson 1996). The social network is a sub-network within the business network thus effecting and being affected by the gained resources and the chosen operation mode. In the same way the chosen operational mode can affect and be affected by the present business network as well as the social network (Holmlund & Kock 1998) (see figure 3.3).



Source: Holmlund & Kock, (1998, p. 48)

Figure 3.3: Factors Affecting a Focal Actor's Internationalisation

3.6 THE DEVELOPMENT OF NETWORKS

There are several different schools of thought about inter-firm network development processes. These major schools of thought about development change processes can be broadly classified into three categories: stages theory, states theory and joinings theory. The stages theory focuses on a progression of change processes in inter-firm network development through stages. It regards network development as an evolution and sequential progression through increases of resource commitments and interdependence (Ford 1980; Dwyer et al. 1987). In contrast, the states theory focuses on strategic moves of exchange actors which occur in an unstructured and unpredictable manner at any point in time (Ford & Rosson 1982; Ford et al. 1996). Finally, the joinings theory focuses on entry processes of positioning, repositioning and exit within networks (Thorelli 1986).

3.6.1 Stages theory

There are two popular models of the stages theory: life cycle models (Utterback & Abernathy 1975; Porter 1980; Quinn & Cameron 1983; Easton et al. 1993), and the growth-stages models of inter-firm relationships (Dwyer et al. 1987; Ford 1980; Larson 1992; Kanter 1994). Both sets of models exert considerable influence in the field of change processes in marketing (Van de Ven 1992).

In these two sets of models, the developmental character of change processes is conceptualised as a distinct step or period of development, growth or process because the models emphasise deterministic action from the actors to commit resources to perform business activities. That is, the change process is described as a gradual development, taking place in a sequential manner and over long periods of time (Ford 1980; Van de Ven 1992).

3.6.2 Life cycle models

The first group or set of the stages theory models is that of life cycle models. These models are based on a biological analogy of the life cycle of organisms and indicate that the change process consists of “a number of inevitable stages of birth, growth, maturity and decline” (Porter 1980, p.157-8). Examples of life cycle models include product lifecycle (Vernon 1966), organisational life cycle (Greiner 1972), industry change model (Porter 1980; Easton et al. 1993) and technology change model (Utterback & Abernathy 1975; Abernathy & Utterback 1978). The essence of the life cycle theory is that it is pre-programmed:

“Life cycle theory assumes that the change is inevitable; that is, the developing entity contains within it an underlying logic, program, or code that regulates the process of change and moves it from a given point of departure toward a subsequent end which is configured in the present state”

(Van de Ven 1992, p. 177-8)

3.6.3 Growth-stages models

The second group or set of stages theory models concerns growth-stage models of inter-firm relationship development. The principal focus has been that relationship development in inter-firm networks occur in sequential/ incremental and irreversible stages. Evidence in the literature about buyer-seller relationships that have specifically proposed growth stages in

inter-firm network development – Ford (1980), Dwyer et al (1987), Larson (1992), Kanter (1994), Heide (1994) and Wilson (1995).

An example of some of the stages of the network development process are, connection, communication and commitment, and the depth of co-operation between actors increases in this order. Connection and commitment are stable phases in the network, whereas communication involved dynamic changes and mutual influence of actors.

These stages models have the potential to provide insights into understanding inter-firm network development (Wilson 1995), although only a few have been empirically tested (Dwyer et al. 1987; Larson 1992). An important source of strength of these models is that they are based on literature from many disciplines and therefore reflect the multi-dimensional aspects of networks, such as social exchange theory (Scanzoni 1979), organisational theory (Pfeffer & Salancik 1978), institutional economics theory (Williamson 1985, 1991) and relational contracting theory/law (MacNeil 1980).

Limitations of these models lie in the fact that most stem from their narrow focus, and do not investigate the dynamics of business relationships larger than a dyad, despite the “prevalence of triads and nets in international marketing and purchasing” (Hakansson & Johanson 1992, p.1; Limerick & Cunnington 1993), and the move from dyadic business relationships to business networks (Hakansson 1987). Furthermore, most of the inter-firm relationship studies (Dwyer et al. 1987; Larson 1992; Heide 1994) have been cross-sectional and did not capture the impact of culture in network development processes, which is especially important in international business (Batonda & Perry 2003). That is, although each model provides some knowledge and insights about how network relationships develop, only one (Kanter 1994) considers international networks. International marketing needs a broader framework of “how relationships in inter-organisational networks start develop or evolve and dissolve over time” (Ring & Van de Ven 1994, p. 91).

Criticisms can be made about stages theory models. First, the assumption in stage models that inter-firm network development processes occur in sequential/incremental and irreversible stages is highly questionable (Quinn & Cameron 1983; Lindert 1986; Bell 1995) because the processes affecting the outcomes may be too complex and uncertain to predict. Indeed, some research has found that inter-firm relationships seldom go through a definite step-by-step development process (Ford et al. 1996) which makes a stages model somewhat inadequate.

Firms ease into relationships incrementally and cautiously, giving signals as they do so (Larson 1992), and the outcome of stages models seem to be influenced by the interaction between economic actors and individuals in the network as well as external persons such as a network broker (Batonda & Perry 2003).

That is, networks seem to be more complex than stage theorists assume. For example, Granovetter (1985, 1992) noted that a network can consist of strong and weak ties, with weak ties allowing individuals to contact others who are located in social relationships that are not normally accessed by them, and thus benefit from new ideas from other networks. Moreover, networking activity is not just an individual initiative, but also depends on a social context because, for example, communication linkages affect a members' effectiveness with a network (Blau & Alba 1982). It is unsurprising that Johannisson (1986, p. 19) defines networks very broadly as

“ . . . *loosely coupled systems with fuzzy boundaries*” Given this complexity, a straightforward stages theory of network development could be questioned.

The lack of precision in the real world networks also means that the stages models have problems explaining development in the boundaries between stages – they provide “little explanation for the transition from one stage to another and some changes may be causes of change rather than the process of change” (Porter 1980, p. 164; Palmer & Bejou 1994). That is, they do not explain why or how the process takes place or how to predict the movement from one stage to the next (Andersen 1993). Importantly, stages models do not discuss factors which may influence intensities of activities reflected when relationships move from one stage to another:

Also, the stage models are generally silent on failure activities because all systems are assumed to progress successfully through all stages. Inter-firm relationships, especially based on a product or technology, are not always successful and either meet early demise or become stagnant (Bell 1995). By incorporating change processes of failed situations (for example dissolution stage), we can obtain a more realistic view of how the change processes in inter-firm networks have developed. Other limitations relate to empirical validation of stages models in the absence of longitudinal studies (Turnbull 1987; Andersen 1993).

3.6.4 States Theory

An alternative school of thought to the stages theory about network development processes is the states theory. The states theory proposes that the change process is an evolution of unpredictable states in which “actors move from one state to another in random fashion particularly between the starting point and the end point” of the network development (Ford & Rosson 1982, cited in Ford 1996, p. 70). In contrast to the term ‘stage’, the word ‘state’ conveys the idea that the condition at a point in time and the phase in the development process is merely one of several possible conditions. That is, this states theory assumes that the relationship development process is neither necessarily orderly nor progressive over time (Ford & Rosson 1982, cited in Ford 1996: 78). Some states researchers have postulated that inter-firm network development is much more complex and may not be evolving in the structured manner which stages theory models have implied (Anderson et al. 1994; Bell 1995; Hakansson & Snehota 1995). But there is no consensus about the issue of whether stages or states best describe how networks grow. More research needs to be done about their applicability in international networks (Bell 1995, p. 62).

3.6.5 Joinings Theory

The joinings theory is the third school of thought about inter-firm network development processes. Summarising this theory, Thorelli (1986, p. 42) argues that the dynamics of business networks are driven by what happens at their start, that is, the entry is a major influence on what happens afterwards like “positioning, repositioning and exit of actors in existing networks”. That is, when entering a network, entrants face strategic challenges of positioning themselves within the network. Thus, the position which a new member takes in the network is shaped by time and commitments (Seyed-Mohamed & Bolte 1992) which determine the ability of the actor to take further action within the network in terms of initiating new relationships or improving old ones. Repositioning within the network follows the entry positioning process and is aimed at placing the member in a strategic node. The exit process involves a cost-benefit analysis of leaving or joining another network. In brief, the joinings theory may offer some insights into the inter-firm network development processes since the building of networks involves dynamic interaction between actors.

Each of the three theories appears to be able to provide some insights into understanding of the complex phenomenon of inter-firm network development. However, it is not clear whether the process occurs in stages which focus on gradual, sequential and predictable stages, or is an evolution of unpredictable states, or is a joining process focused on entry, positioning, re-positioning and exit.

Batonda and Perry (2003) highlighted that the network relationship development process is not an orderly progression of phases over time, but is essentially an evolution of unpredictable states. Their research in the area further suggest the process is complex, iterative and frequently non-linear due to the dynamic nature of human relationships and the nature of businesses and markets. Table 3.4 provides a summary of the main features and limitations of the models outlined in this section.

Table 3.4: Theories of Network Development Processes

Theory	Features	Advantages	Limitations
Stages Theory - Life Cycle Models	Change process consists of a number of stages similar to Product life cycle, organisational cycle etc. Change is inevitable.	Potential to provide insights into inter-firm network development. Based on literature from many disciplines and reflect multi-dimensional aspect of networks	Few have been empirically tested. Does not investigate dynamics of business relationships larger than a dyad. Previous studies failed to capture culture. Networks may not follow discrete stages and are more complex. Little information about transition from one stage to another.
Stages Theory - Growth Stages Model	Relationship development occurs in sequential/incremental and irreversible stages. Stages are connection, communication and commitment		
States Theory	Change is an evolution of unpredictable states and assumes that the development process is neither orderly nor progressive over time.	Inter-firm network development viewed as complex and unstructured	No consensus on whether stages or states best describes how networks grow. More research needed on application to IB.
Joinings Theory	Dynamics driven by what happens at their start, thereafter positioning, repositioning and exit of actors in the network.	May offer some insights into the inter-firm network development processes since the building of networks involves dynamic interaction between actors.	With the exception of Batonda & Perry (2003) this alternative theory has not been empirically tested.

Cooke et al (1995) described the ‘networking’ or ‘the network paradigms’ as an emergent set of developmental practices whose key elements can be summarised as:

- *Reciprocity* - a willingness to exchange information, know-how, proprietary knowledge and goods (Powell 1990);
- *Trust* - a willingness to risk placing faith in the reliability of others (Sabel 1992);
- *Learning* – a recognition that knowledge develops and best practice should be learnt (Sako 1992) and,
- *Decentralisation* - a realisation that centralised information and decision making is inefficient (Aoki 1986).

Hyvarinen (1996) provided a useful checklist of the variety of factors and variables that come together in the formation and development of networks:

- Joint values, language, culture, concepts etc, form the basis of a network and join the individuals and single enterprises into a network.
- The members of a network may have technical, knowledge, social, administrative and legal bonds. These bonds can be formal or informal.
- Business connections can be socio-economic being based on either personal trust or legal when the basis is on formal agreements.
- Technical ties between enterprises originate from matching and fulfilling their products and production processes.
- Co-operation in design, planning and joint learning can improve the mutual logistic co-ordination of members.
- Knowledge transforms value chains into networks. It also strengthens the confidential relations. Since the roles of partners change in the network, the partners who have special knowledge are able to form their own networks in further stages of a network development process.
- Organisational learning takes place in a network. As time passes, the members of the network get to know each other better, adjust to each other and increase their co-operation. This brings an improvement of efficiency and results achieved from co-operation.
- Sometimes it is necessary that the network is able to operate and present itself as one unit to outsiders.
- There are three levels in the network model: heart of the network, network itself and environment.

In networks of small enterprises, development is often dependent on what has been termed the 'operation culture', which is based on the values and needs of individuals (Doyle 2000). Thus, personal contacts and local operations in a limited region are emphasised. Confidence forms the basis for right and adequate transfer of knowledge and material in the value chain. The smaller the enterprise, the closer its behaviour is to that of an individual and the more influence have the manager's personal activities, connections and resources on the operations and activities of the enterprise. An individual's activity fields when building social networks and his/her ego reflected towards neighbourhood, sport, job, kinship and religion, overlap (Johannisson 1986). The employees' social skills and personal networks should also be taken into account when building and sustaining the network, especially in the small enterprise (Hyvarinen 1996).

3.7 THE BENEFITS OF NETWORKS

In the past two decades the rate of growth of networks across all sectors has been dramatic (Doyle 2000). An unprecedented number of business firms in many industries have entered into a variety of co-operative inter-firm relationships to conduct business. These networks include strategic alliances, partnerships, coalitions, joint ventures, franchises and various forms of network organisations, both formal and informal, involving collaboration in areas such as: research and development, production, marketing, training, exporting, financing and knowledge transfer (Murto-Koivisto & Vesalainen 1994).

Networks have emerged as the new response to competition – a way for firms to develop joint solutions to common problems (Doyle 2000). O'Doherty (1998) described the position as the nature of competition is changing. New competitive conditions are demanding new strategies. Global niche markets are replacing mass markets. To compete effectively firms must specialise and combine their capabilities with those of other firms and organisations. The growth of networks allows firms to combine resources to gain knowledge, achieve economies of scale, acquire technologies and resources and enter markets that would otherwise be beyond their reach. Networks act as a source of competitive advantage especially for small firms (Brown & Butler 1995), and help smaller firms overcome the disadvantages of their size.

The benefits of networking are manifold and have been summarised by O’Doherty (1998) as follows:

Material benefits: Firms can increase sales and lower production costs by working together;

Psychological benefits: As firms eliminate their isolation they learn that their problems are shared by others;

Developmental benefits: By promoting interaction with other firms, networking increases learning and the ability to adapt to the changing economic environment.

The NESG (1996) found that network arrangements can be seen as organisational instruments to increase economic efficiency in production and distribution, and more fundamentally, networks are now seen as advantageous in securing innovation. Networks can focus on, among other activities; joint marketing, bulk purchasing, training, product development, technical problem solving, technology transfer, R and D, and sub-supply.

Table 3.5 shows the results of an Australian survey of the benefits of networking to manufacturing and service firms. Profits and profitability is the most important benefit for both types of firms.

Table 3.5: Australian Survey of the Benefits of Networking

Benefits of networking service	Service (n=373) (Percent)	Manufacturing (n=233) (Percent)
Profits/profitability	23	22
Sustainable growth	21	19
Exchange of information	15	15
Quality of product/service	15	14
Goal achievement	7	9
Business recognition	18	9
Expansion of sales	17	9
Export potential	3	8
Share ideas	5	7
Staying in business	4	6
Customer satisfaction	8	5
Combined advertising/marketing	8	-
Increased resources	8	-
Other	34	47

Source: *Understanding Business Networks: Evidence from the Manufacturing and Services Sector in Australia*, (Dean et al. 1997).

According to Doyle (2000) one of the great advantages of networks in the age of globalisation and the proliferation of new and cost effective information and communication

technologies, is that borders need not bind them. It is argued that it is the creation of boundary spanning networks of firms, big and small and big with small that is the important new trend. Business advantage is gained through flexibility; the key to flexibility is new forms of networked organisations within and among firms.

3.8 NETWORKS AND SMEs

Networks, involving organised systems of relationships between entrepreneurs and the outside world are particularly valuable to the small business sector (Doyle 2000). The fragility that accompanies small size can be offset by the supportive environment provided by resilient networks (Brown & Butler 1995). Pyke (1994) argued that through engaging in alliances and other co-operative arrangements, small firms can gain individual strength and a measure of both individual and collective independence. The reasons why SMEs co-operate can be due to the following: the advantage of achieving economies of scale; the sharing of information about the latest techniques and technologies might be an interesting mechanism for keeping small firms up to date and competitive; more rational an efficient distribution of activities; increase the size of production capacity (Mitford 1997).

The Forfás, Annual Competitiveness Report, (1999) stated that SMEs can be competitive if they can realise collectively the advantages of economies of specialisation that they do not have individually because of their small size. In the ten years prior to the report, two parallel but contrasting phenomena have occurred: on the one hand larger firms reorganised their own activities around the world into networks of interconnected activities, and on the other hand, successful small firms aggregated networks around the world, thereby networking local clusters.

Networks present SMEs with a number of options to overcome a range of increasing disadvantages they are experiencing in trying to compete in the ever-increasing globalisation in the marketplace (Doyle 2000). SMEs are being driven towards increasingly flexible specialisation, honing their efforts on a narrowing field of production and concentrating their actions on their core skills. The intermediate market delivering goods and services from one industry to another has become a market of the same importance as the final consumer

market. The chain of value added from raw material extraction to final consumption has been split between larger numbers of enterprises.

A consequence of this is that SMEs are less in a position to continue producing for local or national markets (Doyle 2000). These demands mean that SMEs are operating in markets characterised by continuous change and also that SMEs are competing with larger firms. To remain competitive, Doyle (2000) argued that SMEs have two options: Grow or co-operate in networks. Growth has been the traditional route. Networks are the newer option and for many SMEs is now a viable way to get access to the resources which they would be unable to obtain by acting alone. SMEs are often dependent on co-operation with other firms, e.g. in order to get external resources, access to customers, product ideas and information (Malecki & Veldhoen 1993). Business alliances can thus be an effective means of penetrating new markets (Welch 1992; Buckley & Casson 2002).

In SMEs the personal resource becomes crucial, since the internationalisation process often centres on one person and his/her knowledge and experience. According to Beamish and Munro (1985) most small exporters lack a specific export department. The key actor in the internationalisation process of a small business is the decision-maker of the firm (Miesenbock 1988; Imai & Baba 1991; Christensen & Lindmark 1993). A local business network is largely the product of work undertaken by key actors who also act as gatekeepers to outside information and especially important is information oriented towards national and international markets (Malecki & Veldhoen 1993).

Rutashobya and Jaensson (2004) have shown that networks have value adding benefits for small business and that networks of owner managers initially facilitated entry into foreign markets. The main network benefits from the point of view of owner managers included access to foreign market information and access to foreign markets. In a similar vein Evers and O’Gorman (2006) examined how social and business ties influence the initiation and subsequent internationalisation of new ventures. The study found that international social ties enable successful, rapid market entry and, consequently the continued survival of the case firms researched.

The network perspective in internationalisation is very relevant from the point of view of small business. The network perspective on internationalisation provides an interesting opportunity to understand entry into foreign markets by young and/or resource-constrained

small business (Rutashobya 2003). It also posits that internationalisation is a process that takes place through networks of relationships (Johanson & Mattson 1988).

In more recent years, researchers have studied Born Global type companies in an effort to understand their internationalisation process (Madsen & Servais 1997; Coviello 2003) and found that networks play an important role in the complex, dynamic, interactive and frequently non-linear internationalisation processes.

Lin and Lawton (2006) argued that internationalisation through domestic inter firm networks is positively correlated with a firm's limited non-financial resources, perceived uncertainties and risks associated with internationalisation, and dependence on home partners. The study confirms that cooperating with other firms can be an approach to managing internationalisation risks and uncertainties.

3.9 DRAWBACKS/LIMITATIONS OF NETWORKS

Much of the extant literature on networking tends to emphasise only positive effects (Sullivan-Mort & Weerawardena 2006). However, networks can be as Tang (2009) described a 'two-edge sword' that can facilitate as well as inhibit the development of firms (Chetty & Campbell-Hunt 2004; Witt 2004; De Wever et al. 2005).

One constraint that has received considerable attention is the tendency for SMEs to underinvest in relationship development. Curran et al (1993), for example, found that small firms shunned 'voluntary relationships' and made little use of networking even to overcome problems that threatened the survival of the firm. Curran et al (1993) suggested that this is because of the independent attitude of entrepreneurs, coupled with the time constraints created by having to deal with many day-to-day management problems. In addition, entrepreneurs are sometimes fearful of 'outside' interference, loss of control and the potential for local competitors to gain inside knowledge. Human and Provan (1998) compared two firms in two relatively large networks with a control sample of market firms, and found that market firms made minimal use of inter-firm relationships. Managers explained the minimal use of relationships in terms of limited time, no perceived need, and fear of losing proprietary information. Tang (2009) believes that small firms need to review and adapt their networks

responsively to match emerging conditions and resource demands in the course of business development.

Another key constraint identified in the literature is the lock in effect. This is identified as firms being over embedded with existing network partners: the firm then fails to broaden its network horizons with prospective partners and also fails to identify potential business opportunities beyond the predefined network boundary (Gulati et al. 2000; Adler & Kwon 2002; Gadde et al. 2003). Smaller firms are more likely to be locked in due to their liabilities, whereas larger firms may often be better established within the network and can possibly exercise more power over smaller firms (Meyer & Skak 2002; O'Donnell 2004). 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.

While it is reasonable to expect that some level of networking will be beneficial, it is also plausible to suggest, consistent with the law of diminishing returns, that excessive networking is likely to be counter-productive (Watson 2007). Economists have long argued that time is the scarcest economic resource and how individuals allocate their time can have profound economic effects (Uzzi 1997). Therefore, it is improbable that an SME owner could spend excessive amounts of time networking and still have the time necessary to run a sustainable business. Beyond some limit, it is likely that the marginal benefit from further networking will be more than offset by the negative impact of the owner's lack of available time to attend to important internal business affairs. Watson (2007) suggested there might be some optimum level of resources that an owner should devote to networking. For example, accessing more than six networks during a year is likely to be counter-productive.

Similarly, accessing any individual network on more than three occasions during a year is also likely to be counter-productive. Therefore, given that business failure generally results in heavy personal loss (Bannock 1981), owners need to seriously consider the range and intensity with which they access various potential networks (formal and informal).

Another barrier to the formation of inter-firm relationships is a belief among many managers and policy makers that networks are anti-competitive or collusive (Harper 1993; Benson-Rea & Wilson 1994). This view is fostered by government emphasis on the benefits of competition in moves towards deregulation, and enforcement of anti-competition laws. In

most cases, networks are not anti-competitive, but do require a change in business culture, from being competitive as individuals to being competitive collectively (Martinsson, 1994). Fukuyama (1995) suggested that countries with a high trust culture have an advantage in the formation of social capital and the tendency to view competition collectively.

A further constraint put forward by McNaughton and Bell (2001) is that even when networks are formed, they often lack strategic focus. Strategic systems of network relationships involving co-ordination and a clear strategic intent are relatively rare (Benson-Rea & Wilson 1994). In a study of the networks of eighteen manufacturing firms in New Zealand, Benson-Rea and Wilson (1994) identified only two firms involved in a strategic system of relationships. Similarly, Field et al (1994) found little evidence of strategic networking by firms in a sample of small business in the Canterbury region of New Zealand. Even in regions such as Silicon Valley, where networking has made an acknowledged contribution to economic growth, the lack of administrative co-ordination can make the network vulnerable to environmental changes over time (Saxenian 1990). McNaughton and Bell (2001) suggested that the primary examples of organic networks that exhibit strong co-ordination and strategic direction are those formed around a large focal firm, and are often based on subcontracting relationships. Friedberg and Neuville (1999) elaborated the model of 'industrial partnerships'; a new formalised governance form of subcontracting.

Networks of firms also require strategic and co-ordinative planning. McNaughton and Bell (2001) stressed that exchanges in a network are not organised by market forces, rather they are structured by patterns of trust and opportunity. The same considerations that inhibit network formation militate against the development of mechanisms for co-ordination within networks. The benefits of co-ordination are difficult for an individual firm to appropriate, and to achieve benefits collectively, firms must give up some autonomy and call on uncommon managerial skills (managing between firms rather than managing within them). This is particularly difficult for SMEs, which typically have few slack resources and whose managers may have limited experience outside their own firms and little or no network management skills (McNaughton & Bell 2001).

Hite (2005) suggested that evolution of relationally embedded ties may present several potential disadvantages. First, such evolution can contribute to over-embeddedness (Uzzi 1997) which occurs as the firm experiences an overabundance of embedded ties. If the firm

assumes all network ties need full relational embeddedness, it may allocate too many resources to tie development, experience excess constraints on actions, and be inhibited from successful early growth (Hite & Hesterly 2001). Second, this evolution requires emerging firms to constantly re-assess the fit between type of relational embeddedness and governance structures. However, this imbalance among social components is further aggravated by the evolution of relational embeddedness, which implies that the underlying social relationship is constantly changing. Emerging firms must be aware of the potential for over-embeddedness, must not assume that all relationally embedded ties are alike, must constantly assess relational embeddedness, and may need to adapt governance measures to fit both the transactional and relational characteristics of network ties (Hite 2003).

3.10 NETWORKS AND THE INTERNATIONALISATION PROCESS

The effect of the social network on the internationalisation process has so far been more or less neglected (Holmlund & Kock 1998). In the context of internationalisation, Johanson and Vahlne (1990) examined two case studies and found foreign market entry to be a gradual process, resulting from interaction between parties, and developing /maintaining relationships over time. This supports Sharma and Johanson (1987), who found that technical consultancy firms operating in networks of connected relationships; relationships which become 'bridges to foreign markets', providing firms with the opportunity and motivation to internationalise. Similarly, Johanson and Mattson (1988) suggested that a firm's success in entering new international markets is more dependent on its position in a network and relationships within current markets, than on market and cultural characteristics. Mc Kiernan (1992) proposed that as networks develop for the purpose of internationalisation, the strategic objectives move from being focused on the development of the firm's business, to the retention of its position within the network.

Johanson and Mattson's (1988) model used the social exchange theory to explain how firms develop networks organically and outlined four categories of firms, namely: 'Early Starter', 'Lonely International', 'Late Starter' and 'International Among Others'. On the issue of network structure, Kinch (1992) highlighted the difficulties of establishing position in structured networks. While loosely structured networks may appear to offer greater

opportunities, the rapidity of change in environmental factors may conversely cause difficulty (Bridgewater 1999).

If an SME is faced with increasing demand, sophisticated customers, competitive markets, a product that is strategically important or unable to be standardized, successful internationalisation may require the firm to leverage the skills and resources of other organisations (Coviello & Munro 1992; Hara & Kanai 1994). Mc Dougall et al (1994) and Bell (1995), who highlighted the potential impact of network relationships on small firm internationalisation also, supported this. More specifically, Coviello and Munro (1995) found that larger partners in the business network influenced the conduct of international marketing activities of small firms. The conclusion of each of these studies calls for further research on the role of networks in the internationalisation process of small to medium sized firms. The table below illustrates a sample of previous studies on networks and international business by country (in alphabetical order) and sector from 1994 to 2007. This table indicates a preference for cross- sectoral and manufacturing or product based network research.

Table 3.6: Previous Studies on Networks and International Business

Country	Sector	Author
Australia	Case study of manufacturing firm and licensor	Fletcher & Barrett (2001)
Australia	Government funded small business networks	Fulop (2000)
Australia	Cross sectoral companies	Watson (2007)
Finland	Manufacturing firms	Holmlund & Kock (1998)
Finland, Sweden, Norway	Manufacturing firms	Babakus et al (2006)
Germany, France and Sweden	Cross sectoral companies	Holm et al (1996)
India	Small Knowledge Intensive Firms	Prashantham (2004)
Ireland	Shellfish companies	Evers & O Gorman (2006)
Malaysia and Singapore	Cross sectoral companies	Wai-Chun Yeung (1998)
New Zealand	Study of the networks in 18 Manufacturing firms	Benson-Rea & Wilson (1994)
New Zealand	Software companies	Coviello & Munro (1997)
New Zealand	Small – medium sized manufacturing firms in the electrical industrial machinery and timber processing industries	Chetty & Holm (2000).

Scotland	Knitwear sector	Johnsen & Johnsen (1999)
Tanzania	Handicraft exporting firms	Rutashobya & Jaensson (2004)
Ukraine	Cross sector companies	Bridgewater (1999)
USA	A study of the entrepreneurial networks in the wine industry	Brown & Butler (1995)

The network approach to internationalisation seems to have some merit as underlined by the following statement:

“Evidence of client followership and indications that some firms initiate exporting because of contacts with foreign suppliers do offer a plausible explanation as to how and why software firms with such contacts internationalized”

(Bell 1995, p.72)

Previous experience and knowledge of the founder extends the network across national borders opening possibilities for new business ventures (Madsen & Servais 1997). Internationalisation can also mean that the firm develops business relationships in other countries in three different ways; through the establishment of relationships in country networks that are new to the firm; through the development of relationships in those networks which are known to the firm; and through connecting/integrating networks in different countries by using the existing relationships of the firm as bridges to other networks.

There are strong opportunities for Irish networks, as well as individual Irish companies, to develop transnational networks. Clancy et al. (1998) saw merit in developing linkages which crossed international boundaries. Thus, it could be beneficial to assist Irish supplying companies, which are already part of an Irish network to develop linkages in supplying companies in other markets. The experience of the automotive clusters in Wales (Cooke 1998) confirmed that inter-regional partnerships play an important role in encouraging inter-firm partnerships.

Trade among countries is moving towards globalisation where market barriers are quickly coming down. Tejada (1999) believed that companies located in different regions of the world, could join together under a flexible manufacturing network to share (trade) resources across boundaries and benefit themselves and the different societies to which they belong. He

identified the growth of international competition as one of the most significant factors that has stimulated the reassessment of North American business practices in general. It caused North American firms to lose customers, to suffer shrinking profit margins, and in some cases to fail. American firms have fought back by realising that sharing knowledge with international competitors can be beneficial. Several cases of joint ventures between American and international firms can be observed, including General Motors and Toyota, Siemens and Corning, and Chrysler and Mitsubishi.

3.10.1 Entry Modes and Entry Processes

Firms entering emerging markets face several barriers according to Meyer (2001). These barriers include a lack of information, unclear regulations and corruption. According to traditional research on internationalisation processes, market entries either take place through intermediaries such as agents or distributors or through a firm's own representative in the exporting/importing country, mainly a subsidiary (Jansson & Sandberg 2008). These represent various entry modes. Lu and Beamish (2001) found that SME choice of entry mode affects the performance of companies. In turn, the choice of entry mode is affected by firm resources; as compared to small firms, large firms tend to have greater levels of economic and managerial resources for investments in the host market of entry.

Since it remains an issue whether MNC based theories concerning entry mode selection are applicable to SMEs or not, this is a vital future research avenue (Nakos & Brouthers, 2002). In their study, Dunning's OLI framework² is used to determine the entry mode strategy for SMEs. However, it does not allow investigation of the importance of network relationships in an SME's choice of entry mode for internationalisation. The results of Nakos and Brouthers (2002) highlighted the distinction between the traditional literature setting that focuses on the process of deciding and planning a market entry and its entry modes, against the process of a firm entering a market and establish itself as an actor in a regional network, as implied in a network approach (Salmi 2000).

In terms of research in this area, scholars have found that relationships are at the core of the internationalisation process (Hammarkvist et al. 1982; Håkansson 1982; Axelsson & Johanson 1992; Jansson 1994, 2007; Håkansson & Snehota 1995; Majkgård & Sharma 1998; Ford 2002; Johanson & Vahlne 2003). For SMEs entering Central and Eastern European

² A framework for analyzing the decision to engage in FDI, based on three kinds of advantage that FDI may provide in comparison to exports: Ownership, Location, and Internalization (Dunning, 1979).

markets, business networks are of even greater importance, since they constitute bridges into foreign markets (Meyer & Skak 2002; Meyer & Gelbuda 2006;).

According to the network approach to internationalisation, entries into local market networks take place through establishing relationships. The international marketing and purchasing of products and know-how through a direct exporter/importer network means that a vertical network in the exporting region (such as, a supplier's supplier network) is indirectly connected to another vertical network in the importing region (such as, a buyer's buyer network). This large vertical network will, in turn, be embedded in other regional and national networks, such as a financial network (Jansson 2006, 2007).

From a network perspective, establishment points in foreign market networks are defined as entry nodes. There are various routes into these networks, or nodes by which a firm can enter a network. Entries through trade either take place directly with customers or indirectly through intermediaries. Direct relationships, dyads, can be established between buyer and seller in the respective countries. Indirect relationships, triads, involve an outside party or other type of entry node, usually an intermediary such as an agent, dealer or distributor (Jansson & Sandberg 2008).

Entry processes take place by building relationships to form networks in foreign markets. Irrespective of entry node, the development of international buyer/seller relationships tends to follow a five stage pattern (Ford 1980, 2002; Ford et al. 1996). Similar to the network development theories outlined earlier in this chapter, each stage of the entry process can be described by a number of relationship factors, such as how the experience, commitment and adaptations of the parties increase across the stages and how the distance and uncertainty between them are reduced across the stages.

The first stage includes the taking-up of marketing/purchasing activities before a formal relationship begins. The next three stages show how direct buyer–seller relationships within networks are established: from their beginning and to their deepening. Experience indicates the amount of experience the respective parties have with each other. They will gauge their partner's commitment to the relationship, for example, by the willingness to make adaptations. Distance is multifaceted and it can be split into social, cultural, technological, time and geographic distance. Uncertainty deals with the fact that at the initial stages, it is difficult to assess the potential rewards and costs of the relationship. In the fifth and final

stage, the relationship is extensively institutionalized and habitual, with commitment being taken for granted.

3.11 NETWORK RELATIONSHIPS AND PERFORMANCE

In the network literature, there is ample empirical evidence that inter-organisational ties improve the performance of the whole group (Van de Ven & Walker 1984). As many scholars have argued, network linkages are effective for sourcing and transferring knowledge that leads to competitive advantage. Inter-organisational networks are thought to enhance the survival and capabilities of organisations by providing opportunities for shared learning, transfer of technical knowledge, legitimacy, and resource exchange (Powell 1990; Nohria & Garcia-Pont 1991; Nohria & Eccles 1992). However, research is still limited regarding the influence of social network relationships on the performance of firms.

Network theory suggests that the ability of owners to gain access to resources not under their control in a cost effective way through networking can influence the success of business ventures (Zhao & Aram 1995). Florin et al (2003) suggested that networking can provide value to members by allowing them access to the social resources embedded within a network; that is, networking can provide the means by which small and medium enterprise (SME) owners can tap needed resources that are 'external' to the firm (Jarillo 1989). Julien (1993) observed that this form of cooperation can facilitate the achievement of economies of scale in small firms without producing the diseconomies caused by large size. Using networks can, therefore, potentially lower a firm's risk of 'failure' and increase its chances of 'success' (Watson 2007).

Given the significant financial and human costs that inevitably follow a business failure, researchers have long been interested in the factors associated with firm performance (Duchesneau & Gartner 1990; Cooper 1993; Cooper et al. 1994; Robson & Bennett 2000; Shepherd et al. 2000; Larsson et al. 2003). However, previous research on firm survival has tended to overlook the ways in which firms are relationally embedded within social networks (Amburgey & Rao 1996). While there are many factors that can influence the success of a venture and there are various risk reduction strategies that can be employed to increase a firm's chances of survival (Shepherd et al. 2000), only recently have researchers begun to

highlight the potential significance of an owner–manager's networking involvement (Cromie & Birley 1992).

In support of the foregoing propositions, (and despite Aldrich and Reese (1993) and Cooper et al (1994) being unable to find a significant relationship between networking and firm performance), there have been a limited number of studies that have documented a positive association between networking and various aspects of firm performance. For example, Duchesneau and Gartner (1990) found that successful firms were more likely to have used professional advice. Potts (1977) noted that successful companies relied more on accountants' information and advice than did unsuccessful companies. Kent (1994) found that the financial performance of a group of small pharmacy businesses was positively related to using external management advisory services. Donckels and Lambrecht (1995) found that network development, particularly at the national and international level, was positively associated with firm growth. Lerner et al (1997) found that network affiliation was significantly related to profitability, and that the use of outside advisors was related to revenue. Larsson et al (2003) found that a lack of contacts with outside expert advisors was an obstacle to the expansion of small businesses. Hustedde and Pulver (1992) found that entrepreneurs who failed to seek assistance were less successful in acquiring equity capital and, similarly, Carter et al (2003) reported that the more varied the group of business advisors a women business owner consulted, especially professional advisors, the more likely she was to succeed in securing equity financing.

Gulati et al (2000) introduced the notion of 'strategic networks', which captured the impact of social networks on strategy. Hung (2002) argued that strategies for achieving differentiation can be based on a wide variety of external social networks of relationships (including political, familial, friendship, and alumni links, as well as alliances among boards, trade unions, banks, and other organisations). The implications for managers are that firms need to expand their external networks of relationships to secure their survival and growth.

There is a growing body of literature highlighting the potential influence of network relationships on a firms' survival or growth (Tseng & Kuo 2006). Watson (2007) for example, found a positive relationship between networking (particularly with formal networks such as external accountants) and firm survival and to a lesser extent, growth, but not profitability. His findings further suggest that network intensity is associated with

survival and network range is associated with growth. However, after observing the relationship between *guanxi*³ and performance in China, scholars have obtained varying results. The major benefits of *guanxi* in the business process in China include helping to obtain information, reducing uncertainty, saving time, and easing the procurement of necessary production resources (Davies et al. 1995; Leung et al. 1996; Fock & Woo 1998). Kao (1993) proposed that *guanxi* has a direct impact on the market expansion and sales growth of Chinese firms by affecting resource sharing and social, economic, and political contexts in inter-firm transactions. Luo (1997) also found that *guanxi* is positively related to the performance of foreign funded enterprises. On the other hand, the major disadvantages of *guanxi* are perceived as being the extra time and cost this approach involves (Fock & Woo 1998). A good *guanxi* network is a necessary, but not sufficient, condition for business success in China (Tsang 1998).

Bonner et al (2005) examined the relationship between a firm's perception of its own strategic network identity within its own network of business alliance relationships and its market performance. The results support the notion that when a firm perceives that it has a strong strategic network identity, brokering, negotiation, and selection advantages can then be parlayed into competitive advantage for the firm.

3.11.1 Network Structure Relationship and Performance

In the network context between upstream and downstream, a close relation between customers and suppliers can decrease uncertainty and thus generate better inventory control and lower inventory cost (Chung et al. 2000). The network structure relationships can promote the transfer of knowledge if both transmitter and receiver help to build a relationship of cooperation motivated by reciprocity. Long-term partners gain better complementary knowledge by integrating information and activities, and these complementary resources increase the possibility of value creation and create the opportunity for it. The members of a network can build interdependence and commitment to each other, share a framework of cooperation and operation activities, and create more cooperative value (Holm et al. 1996). Many organisation theorists and strategic management theorists employ the concept of social capital in research on the creation of competitive advantage (Granovetter 1973; Uzzi 1996;

³ *Guanxi* describes the basic dynamic in the complex nature of personalized networks of influence and social relationships, and is a central concept in Chinese society.

Nahapiet & Ghoshal 1998). These scholars agree that social capital is fundamental to interest or wealth, and that firms can obtain an advantage by leveraging the relationship resource. From their different perspectives, scholars have clarified some different types of structure.

Classified using the concepts of density and hierarchy of connection, there would be two structure types: the closed social network (Coleman 1988) and the open network structure with a structure hole (Burt 1992). Members of a closed social network are connected closely, so communication and transfer of information are more direct and more efficient, and there are effective norms to restrain members within the network. If connections are too close, members will waste money in maintaining them, they will impede the introduction of new thinking, impose restrictions on members, and create factions within the network; too many ties cause firms to lose the power of retaining information (Adler & Kwon 2002). Members of an open network structure with a structure hole are loosely connected and have fewer redundant external connections. The structure hole functions as a bridge and in the medium and dominates position, so that members of the network can obtain more information and opportunities quickly and controllably (Burt 1992). Because of their key position and lack of redundant external connections, some firms will monopolize or accumulate too much information and take the risk of depending on a non-redundant connection.

Coleman (1988) noted that information is important to decision making but is costly to obtain and that networks provide a means by which important information can potentially be acquired in a cost effective manner. Therefore, networking can enhance a SME owner's social capital (Coleman 1988) because it provides access to information embedded within the networks accessed. Further, Granovetter (1983) argued that individuals whose networks (and, therefore, main source of information) comprise primarily family and friends (strong ties) are likely to have access to less information than individuals whose networks include many acquaintances (weak ties). Presumably for this reason, Fischer and Reuber (2003) argued that owners of high-growth firms need to develop ties beyond their personal circle of contacts and local communities. Similarly, innovation theory suggests that networks (particularly those comprised of many weak ties) are important in diffusing innovations and, therefore, SMEs whose owners are heavily involved in networking should outperform SMEs whose owners make limited (or no) use of networks (Havnes & Senneseth 2001).

Types of structure can also be classified using the concept of the social tie: the strength of the connection between members, their frequency of communication, and how long did they cooperate (Granovetter 1973). In this case, structures would be divided into strong tie and weak tie. Strong tie structures have a close connection between members within a network, so they can obtain information and resources more easily, and a high level of trust in providing assistance and support. Weak tie structures have less connection between members within the network, but there may be connections with other networks so members can obtain more diverse information and can contact and integrate with their external environment. Thus the lack of internal connections will impede the transmission of knowledge within the network (Schulz & Jobe 2001).

Research focuses on different types of structure in different ways. The closed social network reflects the internal coherence of an organisation or community, whereas the open network structure with a structure hole is related to cost efficiency and the external connection resource. Adler and Kwon (2002) considered that both structures have benefits, but in exploring which kind of structure is preferable we must consider other forms of social capital such as norms, beliefs, or regulation, the tasks that must be accomplished, and the overall environment. Uzzi (1996) considered that a theoretical optimum exists between the countervailing effects of under- and over-embeddedness when a network is composed of a combination of arms-length and embedded ties. On the one hand, networks constituted of embedded ties benefit from trust, joint problem-solving, and thick information exchange, which enhance coordination and resource sharing. On the other hand, networks composed of arms-length ties have wider access to information circulating in the market and an enhanced ability to test new trading partners.

3.11.2 Network –Level Performance

Research on network level performance has been difficult to conduct due to research obstacles that include measuring network or alliance performance in a consistent and appropriate manner, and the logistical challenges of collecting the rich data necessary to assess performance (Gulati 1998). With the exception of joint ventures, which are separate legal entities, it has been very difficult to measure alliance performance using traditional accounting or financial measures like sales growth, return on assets, or profitability (Kale et al. 2002). As a result, some researchers have used stability or longevity as a measure of performance. However, these measures of alliance performance have been criticised for their

limited ability to provide information about collaboration effectiveness (Kogut 1988). Measures such as survival and longevity fail to distinguish between alliances that fail and therefore die, and those that accomplish their objectives and therefore outlive their utility.

Network performance has also been studied using managerial assessments of performance. Managers assess performance in terms of their overall satisfaction with the network, or in terms of the extent to which network has met its stated objectives (Anderson & Narus 1984; Beamish 1987; Parkhe 1993; Mohr & Spekman 1994). Managerial assessments of network and alliance performance received some initial criticism for reasons of bias and inaccuracy. This was true until research by Geringer and Hebert (1991) demonstrated the existence of a high correlation between subjective assessments of performance with more objective measures, based on accounting data. Thus, there is an emerging consensus among scholars that, if properly done, managerial assessments are a reasonable way to assess alliance performance (Anderson & Weitz 1989; Anderson 1993; Child & Yan 1999; Das & Teng 2000).

More recently, the event study methodology has also been used to assess alliance success and the economic value created by alliances (Koh & Venkatraman 1991; Anand & Khanna 2000). This methodology, which has been widely used to assess the performance of acquisitions, explicitly relies on the assumption that the market is efficient, meaning that the market has enough information to accurately assess the impact of a major strategic event, such as an acquisition or alliance. However, some researchers have criticized this methodology arguing that the market is, at best, a semi-strong form and that initial responses to strategic events could be very inaccurate (Kale et al. 2002).

Varamäki and Vesalainen's (2003) suggested framework for a performance measurement system is composed of factors that enable action and success, of processes, and of the productivity and profitability of activities. The issues enabling success are: (1) the network culture; (2) the resources and competences of the network; and (3) the models of action of the network. The performance of activities can be divided into: (4) the performances of internal processes; (5) the customer perspective; and (6) the financial perspective of the network. In the network, the above-mentioned enabling elements (values and culture, resources and competences, models of action) are the structural and operational choices, achievements and

capabilities, which are the seminal value drivers creating the base for the financial performance and profitability of the network. This performance could be evaluated by using the familiar logic of the Balanced Scorecard (BSC). In the causal logic of the BSC, it is generally assumed that a learning and well-being organisation is: (1) able to deliver innovations; and, furthermore, (2) effective and high-quality processes. Moreover, if these innovations and processes are customer-driven, the firm or the network will achieve: (3) satisfied and profitable customers. This success in the eyes of the customer and customer profitability will be also reflected in the: (4) overall financial success (profitability, solvency and liquidity) of the company/network, according to the logic of the BSC. In a successfully managed network, the profit is not divided as in a zero-sum game, in which a profit increase in one part means a profit decrease in some other part.

3.11.3 Networking and Export Performance

While much is known about the role of networking as response to perceived uncertainty and its impact on firm performance in general and SMEs' performance in particular in domestic settings, the relationships between networking and export performance is under researched (Babakus et al. 2006). It is expected that in today's turbulent environment SMEs, which are capable of developing domestic and foreign networking ties to cope with environmental uncertainty, are likely to attain greater success in exporting and enjoy better export performance. In their study Piercy et al (1998) highlight that exporting competitiveness can be derived from access to the necessary resources and from managerial skills in managing these resources. Networks can act as a conduit for resources and if managed effectively, these resources can be utilised to enhance performance in international markets. In a study of Nordic SMEs, Babakus et al (2006) found a direct positive linkage between foreign networking activities and export performance.

3.12 CAPABILITIES

Moving from the performance debate to the issue of capabilities, the RBV of internationalisation already mentioned in the previous chapter is also relevant in the context of networks and capabilities. Despite the prominence of the resource-based view of strategic management it is somewhat astonishing that the terms 'resources', 'capabilities', and

'competencies' have been defined in a variety of ways throughout the business literature (Schmid & Schurig 2003). A classification which is frequently used is the differentiation between tangible resources, like production plants, financial resources, or natural resources, and intangible resources, like patents, skills, brands, or competencies (Grant 1991; Lado et al. 1992; Williams 1992).

Knowledge deficiencies have been identified as a barrier to small firm internationalisation (Loane et al. 2009). Knowledge is central to the Uppsala model in terms of incremental learning and recently a knowledge-based view of the firm (KBV) has emerged as an extension to RBV. According to Kuivalainen (2003), KBV accepts much of the content of RBV, but focused more on the process or path by which specific capabilities evolve and develop over time, adding a more dynamic element to RBV. He further contends that the notion of the evolution of resources, capabilities and knowledge over time is rooted in evolutionary economics (Nelson & Winter 1982), where learning is seen as key for long-term competitive advantage and superior performance (Teece et al. 1997).

Kuivalainen (2003) proposes that firms may be seen as repositories of knowledge and Miller and Shamsie (1996) observe that, in increasingly dynamic and turbulent environments, knowledge-based resources and capabilities contribute most to firms' performance. Thus, firms who are able to create and manage knowledge, which is valuable, rare and difficult to substitute, are able to increase their value and strengthen their domestic and international competitive advantage (Kuivalainen 2003).

Capabilities are often considered as a special sub-category within the category of intangible resources. A clear-cut definition of capabilities is rarely given though. Some authors, for example, have equated capabilities with the concept of routines. Grant has defined capabilities as routines or a number of interacting routines. The firm itself is seen as a huge network of routines (Grant 1991, p.122). By other authors, capabilities have been put on the level of practices. Solvell and Birkinshaw have differentiated practices from activities by defining activities as what the firm does and practices as how the firm does it (Solvell & Birkinshaw 1999, p. 6).

Basically, capabilities are located at the level of the individual. However, it has been widely accepted that organisations as such can also possess and develop capabilities even though the

individual is seen as the holder of knowledge (Nonaka 1994). One prominent way by which organisations develop capabilities is seen in the institutionalisation of individual knowledge into organisational routines. Routines are defined as “all regular and predictable behavioural patterns” (Nelson & Winter 1982, p.14); they are often manifested in organisational guidelines or manuals for action. The establishment of routines throughout the organisation is achieved by repetitive performance of these activities by its members. Capabilities of the firm therefore consist of the cumulative experience in understanding a class of activities (Zander & Kogut 1995, p. 76). The organisation accumulates experience and capabilities within particular activities by just performing the scheduled activities over time. A successful establishment of routines throughout the organisation requires certain continuity in tasks and performance. However, a strict adherence to given routines may turn these routines into rigidities and endanger the survival of the firm (Leonard-Barton 1992, p. 118–121). The development of new capabilities respectively new routines as the basis of competitive advantage requires the possibility to reflect the given scripts of action and to experiment with new ways of performing activities (Schön 1983). Especially the variation of given routines is seen as a way for the corporation to change and advance its capabilities (Brown & Duguid 1991, p. 47–50; Birkinshaw & Fry 1998, p. 52; Birkinshaw et al. 2000, p. 226). It is argued that these variations can be initiated throughout the entire firm during the ongoing day-to-day activities. Every member of the organisation and every unit of the organisation has the possibility to identify and pursue these variations (Birkinshaw 1997, p. 209; Birkinshaw 1999, p. 10). Capabilities are ultimately configurations of routines and resources that allow an organisation to achieve its goals (Nelson & Winter 1982), whereas dynamic capabilities reflect a firm’s capacity to *reconfigure* its capabilities to adapt to its environment (Sapienza et al. 2006).

Dynamic capabilities are the organisational and strategic routines by which managers alter their firms’ resource base through acquiring, shedding, integrating, and recombining resources to generate new value creating strategies (Eisenhardt & Martin 2000).

Capabilities are configurations of routines and resources that allow an organisation to achieve its goals (Nelson & Winter 1982), whereas dynamic capabilities reflect a firm’s capacity to *reconfigure* its capabilities to adapt to its environment (Sapienza et al. 2006). As a firm extends the scope of its activities beyond national borders, it needs to adjust its resource configurations to support cross-border activity (Hitt et al. 1997).

Drawing on the literature on capabilities, the term capability is used to describe resources and preconditions necessary to perform certain tasks as well as a process of activities (Drucker 1992; Li & Calantone 1998). Previous research has incorporated both aspects in the concept of network capability, including both having the necessary knowledge, skills, and qualifications as well as using them effectively. The capacity to replenish social capital is also a dynamic capability as it results in the modification of a firm's resource base, of which network relationships ought to be considered an integral part (Loane & Bell 2006). Consistent with existing literature on dynamic capabilities, this study views capabilities as arising from intricate configurations of resources and operating routines (Helfat & Peteraf 2003; Teece et al. 1997) in the network context. Therefore, capturing the relevant structure and process dimensions of networks outlined earlier in the chapter.

3.12.1 Network Competence/Capability

Prahalad and Hamel (1990) proposed the concept of a firm's 'core competence', highlighting the importance not to think in physical assets but in the roots of competitiveness. Core competencies "provide potential access to a wide variety of market . . . make a significant contribution to the perceived customer benefits . . . and are difficult to imitate" (Prahalad & Hamel 1990, p. 83– 84). Since then, increasing attention has been paid to a firm's competencies by both academia and managers. While the focus traditionally has been on technological competencies and their impact on corporate success, more recent studies have included managerial competencies (Dosi & Teece 1993; Day 1994; Malerba & Marengo 1995).

The term competence is used by some to describe resources and preconditions, i.e., qualifications, skills, or knowledge, necessary to perform certain tasks without considering the actual execution of the task. But, competence has been defined also as a process of activities (Li & Calantone 1998; Drucker 1992). Ritter and Gemünden (2003) incorporated both aspects in their concept of network competence including both having the necessary knowledge, skills, and qualifications as well as using them effectively. With regard to network competence, they distinguish between the tasks that need to be performed in order to manage a company's technological network and the qualifications, skills, and knowledge that are needed in order to perform these tasks (Gemünden & Ritter 1997; Ritter 1999). In this study, competencies have the same meaning as capabilities and are considered to be the collective knowledge of an organisation, and in particular the capacity for the team of

resources to perform some tasks or activities (Grant 1991). Therefore, a competency is created from a given combination of resources which has been made by using certain social organisational processes that are used to achieve a desired end result (Nosella et al. 2006). A full discussion on the overlap between network competence and network capability leading to a definition of network capability for this study is outlined in chapter four, section 4.4.

3.13 CONCLUDING REMARKS

It is evident from the foregoing review of the body of literature on network theory, that networks have an important role to play in the international business activities of all businesses - large and small. The following is a summary of the key points emerging from this chapter:

- A number of organisational theories can be used to explain the emergence of the network organisation such as classical and behavioural management theories, and contingency theories;
- How organisation structure is suited to its environment and the concept of industry synergy impacted on the development of networks as an organisational form, for example, Dynamic Network;
- Market versus hierarchy as a mode of governance has been taken over by a hybrid or network form and draws attention to the relationship as another way of coordinating economic activities;
- Competitiveness is linked to a company's ability to manage its array of network relationships, where the line between cooperation and competition is blurred;
- Emergence of networks are linked to the arrival of an integrated global market in which firms are no longer constrained by organisational and national boundaries;
- Network forms and types can take on many forms depending on the level of differentiation and integration, where factors such as social interaction, trust, information/knowledge exchange and learning all impact;
- The network development process is complex, iterative, and frequently non-linear due to the dynamic nature of human relationships and the nature of business and markets across borders;
- Networks can be analysed based on their structure, processes, and relationships between actors or on the position of a focal firm within a network. Common to all

approaches is the use of three interrelated basic classes of variables: actors, activities and resources;

- Networks provide benefits to firms in terms of access to resources, markets, information, knowledge and skills. Benefits in terms of profitability, growth and survival are also derived. Developmental benefits in terms of learning and adaptability are added benefits. SMEs use networks to achieve economies of scale, share information/resources, compliment/combine resources/skills, and access foreign market and business opportunities;
- The challenge for SMEs is to find the optimum level of resources to invest in networking activities to avoid the pitfalls of either under or over investing in relationship development;
- Relationships are at the core of the internationalisation process. Networks provide opportunities and motivation for firms to internationalise. Firms establish country networks that are new to the firm, and connect networks in different countries by using existing relationships as bridges to other networks and opportunities;
- Inter-organisational networks are thought to enhance firm growth, survival and capabilities. Research is limited on the relationship between networks and firms performance and is even more limited on the relationship with export performance, and
- In analysing network capability, account needs to be taken of the network operating routines and resources and how these can be reconfigured through the network characteristics in adapting to a firms environment.

This chapter presented a review of the literature on organisational theory and design in order to reveal the origins of networks as an organisational form. This was followed by a discussion of the theoretical perspectives on network governance. Literature on network fundamentals, definitions, trust, learning, knowledge/information exchange, development, benefits, and drawbacks/limitations of networks was presented. The final sections dealt specifically with networks in the context of SMEs, internationalisation, performance and capability building. The chapter was brought to a conclusion with an overview of how network theory helps inform international business theory. Both chapter two (international business theory) and chapter three (network theory) provided the contextual background to this research. The next chapter builds on this by synthesising the relevant literature with a view to providing a

conceptual model and hypotheses to address the overall research question and objectives outlined in chapter one.

CHAPTER FOUR - CONCEPTUAL MODEL DEVELOPMENT

4.0 INTRODUCTION

Two bodies of literature have been reviewed in the previous two chapters to underpin the theoretical background to this thesis. The two literature domains, internationalisation theory and network theory are synthesised in this chapter with a view to explaining and outlining the conceptual model for this study.

4.1 NETWORK AND INTERNATIONALISATION LITERATURE COMPARED

The internationalisation literature mostly takes the perspective of a single company operating in some generalized environment. It infers that outcomes are largely the result of the actions of a single company and it is concerned with the skills, resources, experience and attitudes of that single company (Ford 2002).

The internationalisation of small firms has traditionally been capturing a major share of investigation on the international business agenda (Jones et al. 2009). Much of this enquiry has centred on why and how smaller firms initiate exports and on the processes leading to their internationalisation. While empirical contributions on exporting date back to the 1960s (Perkett 1963; Snavely et al. 1964; Hunt et al. 1967; Pinney 1968; Simmonds & Smith 1968; Tookey 1969), much of the research into small firm internationalisation has been influenced by the conceptualizations, which emanated from the 'Uppsala School' in the mid to late 1970s (Johanson & Wiedersheim-Paul 1975; Johanson & Vahlne 1977). Also in the 1970s the so-called Innovation-Related internationalisation models emerged (Bilkey & Tesar 1977; Cavusgil 1980). Both streams of research contend that firms become international in a slow, incremental and step-by-step manner following distinct stages. While there is merit in viewing internationalisation in this manner, many researchers have accused the stages models of being too deterministic and of limited value (Reid 1983; Turnbull 1987; Andersen 1996). In the 1990s more evidence of the limitations of the stages models appeared in the literature.

Some of these limitations were addressed by the emerging topic in the field of International Entrepreneurship which focuses on international new ventures (INVs) and/or born-globals (Oviatt & McDougall 1997; Madsen & Servais 1997) which are, by theoretic definition, international at inception. The former, INVs, have been previously defined as “a business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries” (Oviatt & McDougall 1994, p. 49; McDougall et al. 1994, p. 470). Similarly, Knight and Cavusgil (1996, p. 11) conceptualize born global firms as being “small, technology-oriented companies that operate in international markets from the earliest days of their establishment”. Examples of exceptions to the single firm orientation in internationalisation are those dealing with cooperation through formal relationships such as strategic alliances, licensing, management contracts and joint ventures, for example Contractor and Lorange (1988) and Lorange and Roos (1992).

In general, the internationalisation literature can be summarised as being concerned with:

- The process of evolution of a company’s international trading activities;
- The factors causing internationalisation;
- The decisions that companies themselves make about their international entry mode and the factors that affect both the timing and nature of those decisions;
- The culture and psychic distance between the company and its international markets;
- The importance of knowledge and learning in explaining forms of internationalisation;
- The control that can be exercised by a company over its international operations;
- The consequences of their international activities.

The network literature, on the other hand, is concerned with explaining managerial action in terms of the network of relationships in which the company is enmeshed. More recently, the network approach has been used to provide new insights into the internationalisation process. The network approach sees internationalisation in terms of a company’s existing home or overseas relationships, those that it may have to establish to operate in a new market and the actions of both the company itself and others around it. According to Ford (2002), this interactive process avoids a focus solely on a producer as the sole influencer and allows examination of the role of others in the network, such as retailers, wholesalers, importers and finance houses (Johansson & Mattson 1988; Forsgren & Johanson 1992; Hallen 1992;

Blankenburg 1995; Blankenburg et al. 1997). A large body of the early network literature concerned itself with why networks exist and the more recent thrust of the literature focuses on why networks matter. The following is a summary of how networks benefit the internationalisation process:

- Networks influence the initiation and subsequent internationalisation of new ventures;
- The network perspective on internationalisation provides an opportunity to understand entry into foreign markets by young and/or resource constrained small business;
- Networks play an important role in the complex, dynamic and frequently non-linear internationalisation process;
- Networks provide access to foreign market information and to foreign markets;
- Cooperating with other firms is an approach to managing internationalizing risks and uncertainties.

4.2 CAPABILITY PERSPECTIVE

In this chapter a framework for the impact of networks on international performance is presented by building on the emerging literature on the dynamic capabilities view of the firm (Teece et al. 1997; Helfat & Peteraf 2003). As outlined in chapter three, dynamic capabilities are the organisational and strategic routines by which managers alter their firms' resource base through acquiring, shedding, integrating, and recombining resources to generate new value creating strategies (Eisenhardt & Martin 2000).

A central issue in the dynamic capabilities literature is the relationship between capabilities and performance, the focus here being international performance. Several approaches have been suggested to capture a firm's network capability. Kale et al (2002) define 'alliance capability' as a composite of alliance experience and the existence of a dedicated alliance function, which focuses on the more structural set up of the firm (Walter et al. 2006). Similarly 'network capability' has been measured by the number of previous alliances, even though the theoretical development of the construct itself more reflects the learning perspective (Anand & Khanna 2000). Loxton and Weerawardena (2006), Sullivan-Mort and Weerawardena (2006), Walter et al (2006) define network capability in terms of developing inter-organisational relationships with a view to accessing resources. Overby and Min (2001) refer to "network orientation" in terms of coordination and integrated systems between

organisations. Ritter and Gemünden (2003) argue that ‘network competence’ is a firm’s ability to develop and use inter-firm relationships, which can be measured by task execution and qualifications. However, the exact content of such a capability is still not studied in detail (Gulati 1998; Kale et al 2002; Walter et al. 2006).

The table below summarizes the main variations and definitions of network terms and highlights how each term is linked to the conceptual model for this study as outlined in table 4.1:

Table 4.1: Variations on Definitions of Network Terms

Terms	Author	Theoretical description	Link to Conceptual Model
Network competence	Ritter & Gemünden, (2003), (2004) , Ritter et al (2002)	Network competence defined as the degree of network management task execution & the degree of network management qualifications	Network Human Capital Resources
	Awuah (2001), (2007)	Competence development through network relationships	Not applicable
Network capability	Tushman & Nadler, (1996) , Doz & Hamel (1997), Foray (1997), Tushman & O’ Reilly(1997), O Reilly & Tushman (2004), Hamel & Valinkangas (2003), Utterback (1996), Edquist, (1997), Cooke & Wills,(1999)	Capability to monitor the firms external environment (for discontinuities, partners, competitors ideas etc)	Network Initiation
	Tushman & Nadler, (1996), Doz & Hamel (1997), Foray (1997), Tushman & O’ Reilly(1997), O Reilly & Tushman (2004), Utterback (1996), Ritter & Gemünden (2003), Brown, (1997)	On all levels in the company, capability to facilitate collaboration & integration of different perspectives, knowledge & information	Network Coordination
	Tushman & Nadler, (1996), Brown, (1997), Foray (1997), Ritter & Gemünden (2003), Marshall et al (2003)	Social Skills (e.g communication ability, conflict management skills, empathy, emotional stability, self reflectiveness, sense of justice, co-operativeness	Relational Capability
	Tushman & Nadler, (1996), Doz & Hamel (1997), Ritter & Gemünden (2003)	Specialist skills to deal with network relationships e,g technical & legal.	Network Human Capital Resources

	Tushman & Nadler, (1996), Browne (1997), Doz & Hamel (1997), Ritter & Gemünden (2003)	Relationship Management skills & activities	Network Coordination
	Harland & Knight (2001)	Network Management roles based on Snow et al 1992	Not applicable
	Sullivan-Mort & Weerawardena (2006), Loxton & Weerawardena (2006)	Networking capability as the ability of the SME to initiate, maintain & coordinate the activities of inter-organisational relationships so as to gain access to resources, be they tangible or intangible, held by other network members	Network Initiation, Coordination, Synergy Sensitive Resources
	Walter et al (2006)	Network capability comprises a firm's ability to develop & utilize inter-organisational relationships to gain access to various resources held by other actors	Network Initiation, Synergy Sensitive Resources
	Kale et al (2000)	Factors that enable a firm to not only learn critical skills or capabilities from its alliance partner(s), but also protect itself from losing its own core proprietary assets or capabilities to the partner	Network Learning & Trust
Alliance capability	Kale et al (2001), Kale et al (2002)	Alliance capability would rest upon how effectively the firm is able to capture, share, disseminate the alliance management know-how associated with prior experience	Network learning & Information Sharing
	Kale & Singh (2007)	An alliance learning process that involves articulation, codification, sharing, & internalization of alliance management know-how is positively related to overall alliance success.	Network Learning & Information Sharing
Network Orientation	Overby & Min (2001)	The strategic core of a network orientation is to allow a firm to concentrate on those business areas for which it is best suited & contract with partners for everything else, it implies an integrated systems perspective with which a group of partners works for the common good of all, is based on cooperative norms that are defined as the beliefs that both parties in a relationship must combine their efforts & cooperate to be successful & is characterized by the interdependencies between partners.	Synergy Sensitive Resources, Relational Capability, Network Coordination

Network information	Berghman et al (2006)	Companies should build three types of competences: marketing practices for external knowledge absorption, general organisational competences & supply chain/network competences	Network Learning
Network Intensity	Zhao & Aram, (1995), Rogers (1974), Aldrich (1975), Shulman (1976), Van de Van & Ferry (1980).	Intensity refers to the extent of the interacting organisations' resources committed to the relationship, in terms of frequency of contact & amount of resources exchanged.	Strong & Weak Ties

As seen in the table above, a certain amount of overlap between terms is evident and each definition of network capability captures one or more of the issues under investigation in this study. With the exception of competence development through network relationships (Awuah 2001, 2007) and network management roles (Harland & Knight 2001), this study draws together this stream of literature in developing a network capability definition and model for internationalised SMEs.

Network capability for the purpose of this study is defined as: the ability of an SME to initiate, coordinate and learn from the activities of inter-firm collaborative relationships so as to combine network resources, in a trust based relationship that effectively cooperates to be successful in international trade.

Networks for the purpose of this study are: inter-firm collaborative relationships directed to the generation of relational rents (Dyer & Singh 1988). They consist of joint value-creation processes (Zajac & Olsen 1993) and are embedded in their surrounding social context (Gulati 1998).

4.3 THE CONCEPTUAL MODEL

A discussion on network capabilities draws attention to the overlap in the literature as to how network capability and its relevant components have been conceptualised. In order to address this overlap, a conceptual model in terms of network characteristics, network operation and network resources is proposed. Network characteristics includes: tie strength, relational capability and the level of trust between partners. Network operation focuses on network initiation, network coordination and network learning capabilities. Network resources

comprise network human capital resources, synergy sensitive resources and information sharing within the network. The impact of each of these constructs on international performance will be tested by this model. The proposed model is comprehensive and testable, and conforms to the specifications for the development of robust models in the social sciences in that it incorporates the least number of necessary constructs that exert the greatest relative impact on the phenomenon under investigation (Keats & Bracker 1988). The key theoretical constructs of the model and resulting hypotheses are discussed in the preceding sections.

Conceptual Model

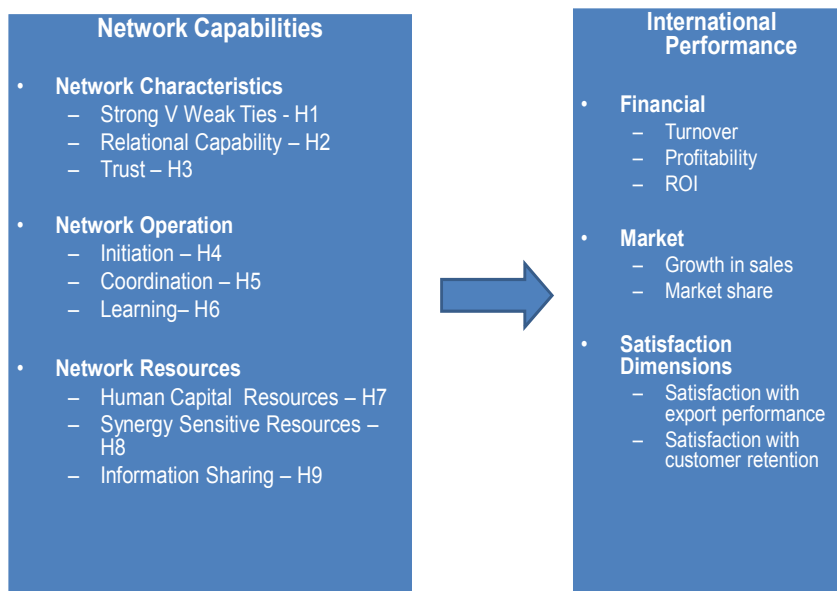


Figure 4.1: Conceptual Model

4.5.1 Network Characteristics

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 between firms in the network. Strong and weak ties differ in terms of frequency of contact, resources committed and the social dimension of the relationship.

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 model proposed in this chapter, 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. 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 relations 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.

4.3.2 Network Operation

Three dimensions of network operation are proposed and include network initiation, network coordination and network learning. Network operation refers to the capability to effectively manage a portfolio of relationships or a network as a whole. Initiation deals with the specific investments by a firm to begin network relations and involves network sensing. Network sensing is defined as the degree to which a firm actively seeks information on new alliance partnership opportunities (Bonner et al. 2005), which includes organised and structured information about a firm's upstream and downstream partners (Loxton & Weerawardena 2006). Coordination capabilities involve synchronizing and integrating the activities of the partners within the network. Partner integration refers to the degree to which the firm actively engages in coordinating activities and strategies across alliance partners. Conflict management is also included as the management and coordination of such conflict in inter-firm collaborations is important. Network learning can speed capability development by acquiring and exploiting knowledge developed by others. Network learning therefore, refers to the degree to which the organisation engages in alliance learning activities, including the dissemination of lessons within the firm (Sinkula et al. 1997) and thus enables a firm to use this information to select valuable partners.

4.3.3 Network Resources

Interpersonal and inter-organisational relationships are viewed as the media through which actors gain access to a variety of resources held by other actors (Hoang & Antoncic 2003). The network literature emphasizes how each company's resources are developed and

exploited through relationships (Ford 2002). The network resource construct of this model comprises three dimensions: Network human capital resources, synergy sensitive resources and information sharing. Network human capital resources are those resources that the firm can access and use to facilitate its international trade efforts within the network and include, technical capabilities, network management, industry knowledge, network experiential knowledge and international experiential knowledge. The concept of synergy sensitive resources is based on the notion of complimentary resource endowments and refers to the level of overlap or similarity between firms in the network. Issues such as knowledge redundancy, partner fit and compatibility are relevant here as the focus is on the combined resources of network partners. The final dimension of network resources is information sharing, which refers to the ability to exchange, assemble, integrate, and deploy valuable information across organisational boundaries (Li & Lin 2006).

4.3.4 International Performance

Using the conceptual model outlined and building on the key constructs above, empirical work will be undertaken to examine the impact of network capabilities on a firm's performance in international trade. Despite the increased number of studies that have been concerned with international performance, there is no uniformly accepted conceptualization and operationalisation of the construct (Cavusgil & Zou 1994; Shoham 1998). Sousa's (2004) review on the matter, revealed as many as fifty different performance indicators, indicating a lack of consensus with regard to the concept. International performance is a complex phenomenon and the choice of individual performance measures depends on contextual factors that are research method specific, export business specific, and target audience specific (Katsikeas et al. 2000). The majority of studies in the area have employed objective as well subjective measures (Sousa 2004). This approach of using several measures to grasp the construct appears to indicate that it would lead to more accurate results, and therefore, is preferable to use multiple items to operationalise international performance (Shoham 1998).

This approach of using firm level and international performance measurements is similar to the commonly used measure in previous research on export intensity (export sales as a percentage of total sales) (Cavusgil & Nevin 1981), and has been regarded as a traditional indicator of the overall importance of international trade or exports to a firm (Choo & Mazzarol 2001).

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 & Kohli 1993), financial performance (Narver & Slater 1995), 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). The third dimension, customer satisfaction, entails a more qualitative measure and measures the extent to which they felt their firm had *high* or *low* levels of customer satisfaction, loyalty and trust. The checklist devised from the literature on measuring export performance outlined in chapter two provides a useful framework to guide the conceptualisation and operationalisation of export performance for this study. The checklist is completed and outlined in table 4.2.

Table 4.2: Application of Checklist for Export Performance Measurement Selection

Checklist for Selecting Measures of Export Performance	Consideration in this study
Unit of Analysis	Firm
Degree of the firm's involvement in export operations	Existence of export/international unit/ number of employees involved in international trade/ percentage of firms revenue from international sales
Size of the firm	SMEs with more than 3 and less than 250 employees
Sector	Telecommunications
Stage of export development	Not applicable in this study
Collaboration/Network /Relational effects	Network capability constructs measured
Temporal Effects	Cross sectional study with domestic and international sales growth for the previous three years considered.
Research Methods	Quantitative mail survey
Managers Own Perception of Performance	Managers asked to rate their performance with respect to the firms current position relative to their main competitors
Analytical Element	Performance is the dependent variable with multivariate analysis done to test the relationship between the independent variables (network capability) and international performance

4.4 HYPOTHESES

4.4.1 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; Johannisson 1988; Dubini & Aldrich 1991; Gargiulo & Benassi 1999). Brass et al (2004) highlight that the shift of network research from simple considerations such as the existence or non-existence of a relationship, to consideration of the strength and content of the relationship is needed to distinguish theoretical predictions.

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 & Nakamoto 1993; Uzzi 1997; Hansen 1999). Tie strength researchers typically classify the relation between social actors as being linked by either a strong tie or a weak one (Rindfleisch & 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 interpersonal and inter-organisational levels (Rindfleisch & Moorman 2001). This duration, frequency and intensity dimension, therefore, synthesizes the resource and social dimension of the tie strength. 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 & 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 & Beamish 1995; Petersen & 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 & Chetty 2007).

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 & 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 & 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 & 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 1Ao: There is no positive relationship between strong ties and international performance

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

Hypothesis 1Bo: There is no a positive relationship between weak ties and international performance

Hypothesis 1Ba: There is a positive relationship between weak ties and international performance

Hypothesis 1Co: The relationship with international performance is not stronger in strong ties than in weak ties.

Hypothesis 1Ca: The relationship with international performance is stronger in strong ties than in weak ties.

4.4.2 Network Relationships

Relationships are not only a necessity for firms to transfer knowledge and capabilities and to co-ordinate the transfer process (Johanson & Mattsson 1988; Forsgren 1990), for instance by reducing uncertainty (Sölvell & Birkinshaw 1999); they are also means to create new knowledge and capabilities (Hallen et al. 1991; Hakansson & 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; Hakansson & Snehota 1997; Forsgren 2001). 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 relationship 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 relations 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 & 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 & Singh 1998; Hansen 1999). Furthermore, Kapasuwan (2006) found a positive relationship between relational embeddedness, organisational learning and international performance. Past research has operationalised relational embeddedness (Bonner et al. 2005; Grundblach et al. 1995; Heide & John 1992; Rindfleisch & Moorman 2001), relational skills (Walter et al. 2006), relational competence (Loxton & Weerewardena 2006), relational capital (Badaracco 1991; Inkpen 1994; Mohr & Spekman 1994; Madhok 1995; Gulati 1995; Dyer, 1996; Dyer & Singh 1998; Kale et al. 2000) using similar constructs. Relational skills, also referred to as social competence (Baron & 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 & Nadler 1996; Foray 1997; Marshall et al. 2003; Ritter & 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 & 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. Lorezenzo and Lipparini (1999) regard

‘relational capability’ as the capability to interact with other companies, a capability that is based on absorption, combination and coordination.

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 2o: The lower the level of relational capability of a firm within the network the lesser the impact on International performance

Hypothesis 2a: The higher the level of relational capability of a firm within the network the greater the impact on International performance

4.4.3 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 & 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 & 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 & Sensenbrenner 1993; Jones & 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 & George 1998; Lipparini & 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 & 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 & 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 relations, particularly with respect to the exchange of information (Saxenian 1990; Lorenzoni & 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 interfirm networks’ longevity (Saxenian 1990; Lipparini & Lorenzoni 1993).

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 & Van de Ven 1994; McAllister 1995; Nahapiet & 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).

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 relations. 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 3o: The lower the level of trust between partners in a network the lesser the impact on international performance.

Hypothesis 3a: The higher the level of trust between partners in a network the greater the impact on international performance.

4.4.4 Network Initiation

A distinction may be made between tasks which are relevant to managing a single relationship (a dyad) and tasks which are necessary to manage a portfolio of relationships or a network as a whole (Ford 1980; Mattsson 1985). The literature on relationship management suggests three different types of relationship-specific tasks: initiation, exchange and coordination. Initiation and coordination will be dealt with first, and exchange is dealt with under the heading of information sharing.

Initiation is based on the premise that inter-organisational relationships do not start on their own (Ritter & Gemünden 2003). They are the result of specific investments. Typical activities to identify potential partners are visits to trade shows, monitoring industry-related journals, and exploiting hints from existing partners. Company visits and the distribution of information about the firm to potential partners are also initiation activities. Network initiation involves a degree of network sensing. Network sensing is defined as the degree to which a firm actively seeks information on new alliance partnership opportunities (Bonner et al. 2005). Because opportunities for competitive advantage can be found through network

relationships (Burt 1992; Anderson et al. 1994; Achrol & Kotler 1999), firms are constantly in search of new network partners, especially those that can provide unique and complementary resources. In the context of the currency trading banking network, Zaheer and Zaheer (1997) found a strong positive relationship between a bank's alertness, or the number of contacts it makes, and the frequency with which other banks contact it.

According to these findings, firms seek other firms that actively monitor the market for alliance partnering opportunities. Through active sensing of the marketplace, a firm establishes contacts and becomes well informed about partnering opportunities. As a result, an active network sensing firm can be valuable to others seeking new partners by providing them access to valuable opportunities and reducing their search costs.

Many studies have highlighted the importance of market knowledge – defined as “organized and structured information about the market” (Li & Calantone 1998, p.15). In the context of this study, the focus is on network partners, therefore, similar to Walter et al (2006), partner knowledge is organized and structured information about a firm's upstream and downstream partners (suppliers and customers) , and competitors. Loxton and Weerawerdena (2006) stressed, that partner knowledge allows for the initial selection of possible collaborations, joint ventures and research partners. Hence, the initiation aspect of network relationship management comprises of a range of initiation activities as outlined above, as well as partner knowledge and network sensing capabilities. Therefore it can be argued that if a firm is actively engaged in seeking out partners, information and resources within the network, and initiates appropriate relationship development, they will have a greater chance of opening up opportunities that will lead to enhanced performance outcomes in international markets. Hence;

Hypothesis 4o: The less effective the level of network initiation capability a firm has, the lesser the effect on its international performance.

Hypothesis 4a: The more effective the level of network initiation capability a firm has, the greater the effect on its international performance.

4.4.5 Coordination

Coordination implies that the organisations involved need to synchronize their activities so that the activities of organisations are in tune with each other (Mohr & Nevin 1990). Such

coordination includes the establishment and use of formal roles and procedures and the utilization of constructive conflict resolution mechanisms (Ruekert & Walker 1987; Helfert & Vith 1999).

The targeting of a desirable state in the future involves internal analysis (resources, strength, and weaknesses within the company), network analysis (quality of external contributions, fit to internal resources, strategic and resource fit within the network), and environmental analysis (competitors, general technological and market developments). These generate a better understanding of a company's internal resource situation as well as more realistic expectations concerning partners' contributions (Ritter & Gemünden 2003).

Networks of firms also require strategic and co-ordinative planning. McNaughton and Bell (2001) stressed that exchanges in a network are not organised by market forces, rather they are structured by patterns of trust and opportunity. The same considerations that inhibit network formation militate against the development of mechanisms for co-ordination within networks. The benefits of co-ordination are difficult for an individual firm to appropriate, and to achieve benefits collectively, firms must give up some autonomy and call on uncommon managerial skills (managing between firms rather than managing within them). Coordination within a network therefore, lends itself to partner integration. Partner integration refers to the degree to which the firm actively engages in coordinating activities and strategies and in the sharing of knowledge across alliance partners (Bonner et al. 2005). Effective integration across partners is critical for the productive use of a partner's resources through knowledge transfer. In the marketing channels literature, the quality of communication and coordination, knowledge sharing, and joint participation between manufacturers and dealers has been linked to relationship performance (Anderson & Narus 1984; Mohr & Spekman 1994). Mohr and Spekman (1994, p.138) state that without a high level of coordination, just-in-time processes fail, production stops, and any planned mutual advantage cannot be achieved. A critical aspect of any relationship is the potential for conflict between the alliance partners and how they deal with them (Kale et al. 2000). Conflict often exists in any alliance relationship on account of the inherent dependencies involved in such interactions. Given that a certain amount of conflict is expected, how such conflict is managed and coordinated is important (Borys & Jemison 1989), as the impact of conflict resolution on the relationship can be productive or destructive (Deutsch 1969).

Accordingly, it is reasonable to argue that a firm that actively coordinates activities across its partners is likely to have access to valuable resources and therefore becomes desired by other partners (Bonner et al. 2005), which it turn may lead to enhanced performance outcomes. Thus:

Hypothesis 5o: The lesser the firm's network coordination capability, the lesser the effect on international performance.

Hypothesis 5a: The greater the firm's network coordination capability, the greater the effect on international performance.

4.4.6 Learning

Competition is increasingly knowledge based as firms strive to learn and develop capabilities faster than their rivals (Prahalad & Hamel 1990; D'Aveni 1994; Teece & Pisano 1994). However, the time between the identification of a problem and its arrival may not allow the firm to internally develop the knowledge and capabilities needed to respond effectively (Dierickx & Cool 1989). Furthermore, by learning through inter-firm networks, firms can reduce the perceived uncertainties of foreign markets without having to wait until their own market knowledge has reached the required level (Forsgren 2001). This had led to a shift from traditional resource or risk sharing alliances to alliances with learning from partners as a primary goal (Hamel 1991; Huber 1991). Through 'learning alliances' firms can speed capability development and minimize their exposure to technological uncertainties by acquiring and exploiting knowledge developed by others (Grant & Baden-Fuller 1995). This construct is similar to the notion of absorptive capacity, which refers to a firm's fundamental learning processes: its ability to identify, assimilate and exploit knowledge from the environment (Cohen & Levinthal 1989; Lane & Koka 2006). Lane and Lubakin (1998) argue that the understanding of learning alliances has been limited to *how* they should be structured and managed, and that far less is known about *with whom* a learning alliance should be formed. Kale and Singh (2007) see the alliance learning process as a process that is directed toward helping a firm and its managers, learn, accumulate and leverage alliance management know-how and best practices. Kale and Singh (2007) draw on research from the dynamic capabilities perspective (Zollo & Winter 2002) and the knowledge based view of the firm (Nonaka 1994; Grant 1996) and suggested that such a process involves deliberate efforts to articulate, codify, share and internalize alliance management know-how in firms.

Network learning therefore, refers to the degree to which the organisation engages in alliance learning activities, including the dissemination of lessons within the firm (Sinkula et al. 1997). It helps firms interpret and internalize the information and knowledge that it transfers and adapts (Sinkula et al. 1997). The information sharing aspect will be dealt with later in a separate section. A firm that exhibits a strong network learning capability processes information and knowledge about past relationships, which can be effectively transferred to others for use in future relationships (Fiol & Lyles 1985; Anderson et al. 1994; Mohr & Spekman 1994; Sinkula et al. 1997). Potential partners would value this information and knowledge accumulated by network-learned firms (Fiol & Lyles 1985; Anderson et al. 1994; Mohr & Spekman 1994; Sinkula et al. 1997). In addition, firms that emphasize network learning practices should be in a good position to effectively use this information to select valuable partners and to manage effective linkages with those partners (Powell et al. 1996; Gulati, 1999). Accordingly, it can be argued that a firm that effectively learns from its network encounters will be more efficient in selecting and managing network activities that ultimately leads to performance outcomes in international trade. Hence:

Hypothesis 6o: The less effective a firm is in network learning, the lesser the effect on international performance.

Hypothesis 6a: The more effective a firm is in network learning, the greater the effect on international performance.

4.4.7 Network Resources

Network resources inhere not so much within the firm but in the inter-firm networks in which firms are located (Gulati 1999). They are a specific form of firm resources that can be considered to be strengths that can be used to conceive of and implement their strategies (Barney 1991). Researchers developing the resource based perspective have highlighted the importance of social factors and also the role of unique firm history, however, little attention has been given to network resources that emerge from firms' participation in inter-firm networks (Barney 1991; Gulati 1999).

As outlined in chapter two, the resource based view (RBV) of internationalisation argues that the major decisions (for example, on country market choice, market servicing mode, product-market strategies) are based on total consideration of all available resources and capabilities

of the firm as well as environment (including competitive) realities (Bell et al. 1998; Grant 1991).

The issue under discussion here pertains to the human capital resources available for international expansion, namely, those resources that the firm can access and use to facilitate its international expansion efforts within the network. Cooper et al (1994), suggest that the principal entrepreneur in new venture creation can provide a firm with general human capital or resources, either in the form of the entrepreneurs own life or education. Entrepreneurs with more diverse levels of human capital are purported to have the ability to develop relevant skills and contacts and are able to tap into dense resource and information networks (Westhead et al. 2001). Wernerfelt (1984) argues that firms trying to establish an international presence must look for the unique resources they may possess. Noting that the core competencies that underlie many successful domestic firms may not be protectable in an international arena, Wernerfelt (1984) argued that the resources specifically available for international expansion are likely to serve as differentiators of firms' international activities. A firm that wants to maintain a presence in various geographically disperse and culturally and politically distinct international markets must have access to substantially greater resources devoted specifically to these activities than firms that operate on a more restricted basis (Preece et al. 1994). More specifically, the coordination of overseas operations, which must consider substantial variations in time zones, organisational structures, and business environments, will severely tax even the most effective multinational corporations (Prahalad & Doz 1987). Hsu and Pereira (2008) demonstrated a positive relationship between available resources and internationalisation.

The management of these resources and the execution of the network management tasks is a complex process and, as such, it requires various types of qualifications (Jackson et al. 1991). According to Ritter and Gemünden (2003) a distinction can be made between specialist and social qualifications. The social aspect of these qualifications is dealt with under relational capability. Specialist qualifications include those, which are necessary to handle “the technical side” of relationships: Technical skills are important to understand partners in terms of their technical needs, requirements, and capabilities. Economic skills are required to define inputs and set prices. Knowledge about the other actors is an important resource. This knowledge includes information about the operations of partners, their personnel and resources, which are important for understanding their behaviour and the development of the

network. In addition, experiential knowledge resulting from interactions with external partners is crucial. Such knowledge can be used to anticipate and evaluate critical situations and to select appropriate action (Helfert 1998). It is experiential knowledge that reduces the firm's perception of market uncertainty or risk, which, in turn, impacts on commitment to international markets. Experiential knowledge is considered to be more valuable than objective knowledge in such circumstances (Johanson & Vahlne 1977) since it allows for "...direct knowing, immediate understanding, learning without conscious use of reasoning, or making a choice without formal analysis" (Brockmann & Anthony 1998, p.210). Johanson and Vahlne (1977) argued that it is the need to acquire experiential knowledge that leads the firm to take small, incremental steps to open up new markets. Since then, a number of empirical studies have demonstrated that a firm is able to acquire relevant international knowledge from its relationships (Holm et al. 1996; Chetty & Ericksson 2002).

With regard to specific industry knowledge, Westhead et al (2001) found that businesses with principal founders that had considerable industry-specific knowledge, as reflected in starting their businesses in the same industry as their last employers, are markedly more likely to be exporters. Specific industry knowledge and previous experience in selling goods and services abroad were strong predictors of the ability of the firm to be exporters (Westhead et al. 2001). The internationalisation and network theory thus suggests that the human resources category (Grant 1991) warrants investigation in terms of how this specific resource grouping enables an SME to maximise its network opportunities to enhance performance in international trade. The network human capital resources relevant to this study includes: technical capabilities, network management, industry knowledge, network experiential knowledge and international experiential knowledge.

Hypothesis 7o: There is no positive relationship between a firm's network human capital resources and international performance.

Hypothesis 7a: There is a positive relationship between a firm's network human capital resources and international performance.

4.4.8 Inter-organisational fit

At the network level factors such as: complementarity - whether the network is based on competition or complementarity or in other words if the network is vertical, horizontal or diagonal is relevant. Nooteboom (1999) identifies three types of linkages: vertical –

constituting flows of products (goods or services) from suppliers to users, in intra-firm value chains or inter-firm value systems (Porter 1986); horizontal - where similar, competing products (substitutes in consumption) are pooled to share a common resource of production or distribution, in a scale strategy, and diagonal – or diversified, where dissimilar products, which may be complimentary in research, marketing, or distribution, are pooled to share a common resource.

The strategic core of a network orientation therefore, is to allow a firm to concentrate on those business areas for which it is best suited (core competences) and contract with partners for everything else (Hodge et al. 1996). With a network orientation, a firm seeks complimentary resources of its partners while maintaining internal unique resources necessary to attain the firm's strategic goals (Overby & Min 2001). As a result, performing well suited critical functions enables a firm to advance its specialisation while maintaining flexibility and adaptivness to international market environments. Another way firms can generate relational rents is by leveraging the complementary resource endowments of an alliance partner (Dyer & Singh 1998). In some instances a firm's ability to generate rents from its resources may require that these resources be utilized in conjunction with the complementary resources of another firm. Complementary resource endowments have been the focus of much prior discussion on the formation and management of alliances and have been discussed widely as a key factor driving returns from alliances (Harrigan 1985; Teece 1987; Hamel 1991; Hill & Hellriegel 1994; Shan et al. 1994). Dyer and Singh (1998) define complementary resource endowments as:

“Distinctive resources of alliance partners that collectively generate greater rents than the sum of those obtained from the individual endowments of each partner. For these resources to generate rents through an alliance, it is necessarily the case that neither firm in the partnership can purchase the relevant resources in a secondary market. Also, these resources must be indivisible, thereby creating an incentive for each firm to form an alliance in order to access the complementary resources”.

Dyer and Singh (1998, p. 666)

In assessing the extent to which alliance partners can generate relational rents by combining complementary resources, it is worthwhile to think about the proportion of the potential partner's strategic resources that is synergy sensitive with the firm's resources (Dyer & Singh

1998). As the proportion of synergy-sensitive resources in the potential partners increases, so does the potential for earning relational rents by combining the complementary resources. The notion of synergy sensitive resources can be operationalised with reference to the concept of knowledge redundancy, which is broadly viewed as the degree of overlap in the knowledge base between two or more social actors (Burt 1992; Rindfleisch & Moorman 2001), partner fit - complimentarity and compatibility (Beamish 1987; Harrigan 1988; Geringer 1988; Parkhe 1993; De la Sierra 1995; Dyer & Singh 1998; Kale et al. 2000), and resource integration (Li & Lin 2006). Complimentarity between alliance partners refers to lack of similarity or overlap between their core business and capabilities – the lower the similarity, the greater the complimentarity (Mowery et al. 1996). Harrigan (1988) shows that when partners possess complimentary missions and resource capabilities, ventures and partnerships are more likely to succeed. Complimentarity ensures that both partners bring different but valuable capabilities to the relationship (Kale et al. 2000). Researchers have also argued that compatibility of partners is an important aspect of fit that affects alliance outcomes (Kale et al. 2000). In a study of 90 joint ventures, Geringer (1988) demonstrates how partner compatibility correlates with alliance success. Compatibility in terms of resources is the key issue here and in particular, how the combined resources of network partners are integrated to provide performance outcomes in terms of international trade.

Hence, it can be hypothesised:

Hypothesis 8o: The lower the level of synergy sensitive resources within a network the lesser the impact on international performance.

Hypothesis 8a: The higher the level of synergy sensitive resources within a network the higher the impact on international performance.

4.4.9 Information Sharing

Internal communication is included in the concept of network capability (Walter et al. 2006). Studies on market orientation have shown that internal communication is essential for being responsive and open (Narver & Slater 1990; Kumar et al. 1993), and for effective organisational learning within partnerships (Doz. 1996). From a relational perspective, Sivadas and Dwyer (2000) also point to internal communication as an integrated part of collaborative competence. Assimilating and disseminating up to date information on partners, their resources and agreements with them to all involved departments help to avoid redundant

process and miscommunication as well as improve the detection of synergies between partners (Cohen & Levinthal 1990). It has been stressed that impulses for the variation of existing capabilities often originate from outside the focal organisation (Cohen & Levinthal 1990; Lane & Lubatkin 1998). These external sources can, for example, be seen in general accessible information such as journals, seminars, and consultants.

Another source of knowledge that has for a long time been stressed in the (industrial) marketing literature (Sharma 1993; Hakansson & Snehota 1995) and that recently has gained even more attention are interactions, respectively close relationships, with other entities within the business network of the focal unit. Cohen and Levinthal, for example, have pointed out that the evaluation, the acquisition, the integration, and the commercial utilisation of new knowledge is particularly dependent on the intensity and the frequency of interactions with other entities (Cohen & Levinthal 1990; Dyer & Singh 1998; Lane & Lubatkin 1998).

Penrose (1959) first recognised the role of knowledge in business management, stressing that knowledge is the important resource for the growth of the firm. However, knowledge is difficult to transfer and communicate across organisational boundaries (Li & Lin 2006). Inkpen and Crossan (1995) point out that for learning strategies to be viable firms must overcome the ambiguity associated with their partners' skills. Information sharing in a network refers to the ability to exchange, assemble, integrate, and deploy valuable information across organisational boundaries (Li & Lin 2006). Abrahamson and Rosenkopf (1993) suggest that firms often lack channels for sharing rich or reliable information with one another because they are unwilling to share such information in the first place. Ongoing healthy inter-firm relationships provide both communication channels for sharing valuable information and a strong motivation to do so. Closs et al (1998) provide empirical evidence that there is a positive relationship information sharing, integration and overall supply chain performance in particular. Baker (1992) and Burt (1980) have shown that the distinct social structural patterns in exchange relations within markets shape the flow of information. Moreover, a network of embedded ties accumulated over time can become the basis of a rich information exchange network that enables firms to learn about new alliance opportunities with reliable partners (Kogut & Zander 1992; Gulati 1995; Powell et al. 1996). Gulati (1999) conceptualized the informational advantages bestowed by networks of inter-firm ties as a network resource. Moller and Torronen (2003) refer to network information potential as the

degree to which market and other information can be obtained through working relationships with suppliers and customers.

A number of empirical studies have demonstrated that a firm is able to acquire relevant international information from its relationships (Holm et al. 1996; Chetty & Ericksson 2002). It is the contention of this study that the firm's network represents a source of information, either directly or indirectly, which can be capitalised upon in terms of the internationalisation of the firm and thus improves international performance. Therefore it can be hypothesised that:

Hypothesis 9o: The lesser the level of information sharing within the network, the lesser the impact on international performance.

Hypothesis 9a: The greater the level of information sharing within the network, the greater the impact on international performance.

4.5 CONCLUSION

Building upon the theoretical background presented the chapter two and three, this chapter proposed a comprehensive conceptual model of network capabilities and international performance (see figure 4.1). This chapter began with a comparison between internationalisation theory and network theory. A discussion on network capabilities followed drawing attention to the overlap in the literature as to how network capability has been conceptualised. A new model, in order to overcome these deficiencies is proposed and hypotheses are developed. It posits that network capability combines network characteristics, network operation and network resources in an effort to enhance performance outcomes in international trade. The testing of the conceptual model and hypotheses developed in this chapter will answer the following specific research questions outlined for this study: What constitutes networking capability at the level of the firm? How is networking capability conceptualised and measured? And what is the impact of networking capability on a firm's performance in international trade?

Finally, the hypotheses are summarised in table 4.3. The methodology for testing these hypotheses is presented in the next chapter.

Table 4.3: Hypotheses

	Hypotheses
1A o	<i>There is no positive relationship between strong ties and international performance</i>
1A a	<i>There is a positive relationship between strong ties and international performance</i>
1B o	<i>There is no positive relationship between weak ties and international performance</i>
1B a	<i>There is a positive relationship between weak ties and international performance</i>
1C o	<i>The relationship with international performance is not stronger in strong ties than in weak ties.</i>
1C a	<i>The relationship with international performance is stronger in strong ties than in weak ties.</i>
2 o	<i>The lower the level of relational capability of a firm has within the network the lesser the impact on international performance.</i>
2 a	<i>The higher the level of relational capability of a firm has within the network the greater the impact on international performance.</i>
3 o	<i>The lower the level of trust between partners in a network the lesser the impact on international performance.</i>
3 a	<i>The higher the level of trust between partners in a network the greater the impact on international performance.</i>
4 o	<i>The less effective the level of network initiation capability firm has, the lesser the effect on its international performance.</i>
4 a	<i>The more effective the level of network initiation capability firm has, the greater the effect on its international performance.</i>
5 o	<i>The lesser the firm's network coordination capability, the lesser the effect on international performance.</i>
5 a	<i>The greater the firm's network coordination capability, the greater the effect on international performance.</i>
6 o	<i>The less effective a firm is in network learning, the lesser the effect on international performance.</i>
6 a	<i>The more effective a firm is in network learning, the greater the effect on international performance.</i>
7 o	<i>There is no positive relationship between a firm's network human capital resources and international performance</i>
7 a	<i>There is a positive relationship between a firm's network human capital resources and international performance</i>
8 o	<i>The lower the level of synergy sensitive resources within a network, the lower the impact on international performance.</i>
8 a	<i>The higher the level of synergy sensitive resources within a network, the higher the impact on international performance.</i>
9 o	<i>The lesser the level of information sharing within the network, the lesser the impact on international performance.</i>
9 a	<i>The greater the level of information sharing within the network, the greater the impact on international performance.</i>

CHAPTER FIVE - RESEARCH DESIGN AND METHODOLOGY

5.0 INTRODUCTION

Chapter five considers the theoretical and conceptual issues pertaining to the research design. Various research philosophies and approaches addressed in the literature will be discussed with particular emphasis on their application to the current research study. The chapter then outlines the research design and methodological decisions made to conduct this study. Followed by non-response bias, common method bias, reliability and validity considerations. The final section of this chapter outlines the various data analysis techniques employed in this research.

5.1 THE RESEARCH OBJECTIVES AND QUESTIONS

The research question for this study was to investigate how network theory contributes to our understanding of the internationalisation process of SMEs and to measure the effect of network capability on performance in international trade. The specific focus was on performance in international trade as opposed to the actual process of internationalisation. The dependent variable therefore was performance as measured through conventional means such as market, financial and customer satisfaction levels of performance. The independent variables included factors that make up a firm's network capability and comprise network characteristics, network operation and network resources.

5.1.1 Objectives of the Research

The specific objectives of this research were:

- ◆ To offer new insights into the international market development activities through application of a network theory perspective;
- ◆ To gain a deeper understanding of networking capability;
- ◆ To determine the impact of networking capability on the international performance of SMEs;

The specific research questions that arose from these objectives were:

- What insights does network theory offer in relation to SME internationalisation?
- What constitutes networking capability at the level of the firm?
- How is networking capability conceptualised and measured?
- What is the impact of networking capability on a firm's performance in international trade?

5.2 PHILOSOPHICAL STANCE

The philosophical stance taken will have a key influence over the methodology as not only will it have to match the style of the researcher but will inform the choice and development of the research instrument. The author's ontological position for this research is defined as positivist, because it views reality (Telecommunications industry in Ireland) independent of the researcher, based on socially stable constructs (quasi facts) and quantitative data (facts). The epistemology being explanatory as the research sets out to explain reality (that is, making a statement of knowing about the relationship between networking capability and international performance) based on this positivist ontology. This stance is adopted due to its appropriateness and applicability to this research study. The methodology, determined by the already chosen ontology and epistemology is quantitative and clearly based on the positivist paradigm. The aim of the research is achieved by hypotheses testing, through application of structural equations modelling techniques. The basis for this methodological approach is discussed in further detail in the preceding sections of this chapter.

Key to the positivist model was that science could produce objective knowledge. Thus the purpose of research was to uncover objective truths (Crotty 1998). To capture and accurately represent an objective truth or reality, it was argued that the researcher must remain objective (Hammersley 2000). Essentially the researcher was viewed as an 'outsider', an independent observer, rigorously gathering data and reporting objectively on this data. The researcher's subjectivities were not allowed to impact on the research process as it was believed that this would lead to a distorted, invalid picture of reality.

A methodology is only one of the three elements of a paradigm that researchers either explicitly or implicitly work within – a paradigm includes the other elements of ontology and epistemology (Guba & Lincoln 1994). Essentially, ontology is 'reality', epistemology is the relationship between that reality and the researcher, and methodology is the techniques used

by the researcher to discover that reality. In brief, a paradigm is an overall conceptual framework within which a researcher may work, that is, a paradigm can be regarded as the “basic belief system or worldview that guides the investigator” (Guba & Lincoln 1994, p.105). Philosophical assumptions that support four different paradigms of science – positivism, realism, constructivism and critical theory – are summarised in Table 5.1.

Underlying these four paradigms is the question of knowledge creation: how can the findings of one research project be generalised to other situations? In the first of the four paradigms, positivism, knowledge is statistically generalised to a population by statistical analysis of observations about an easily accessible reality. The premise of this approach is that because the social world exists externally, and in order for its features to be measured; objective methods must be used “rather than being inferred subjectively through sensation, reflection or intuition, that there is no real knowledge but that which is based on observed facts” (Easterby-Smith et al. 1991, p. 22). The positivism paradigm position on knowledge creation about an easily apprehensible reality through value-free procedures is well known (Sobh & Perry 2006).

In the second paradigm of realism, the findings of one study are extended by analytical generalisation that shows how the empirical findings of a research project nestle within theories. In other words, the aim of a realism paradigm is to generalise to theoretical propositions and not to populations (Yin 1989). This approach to research allows more complicated situations to be examined. It involves not only as many as possible of the variables under investigation, but also the context of the study. Thus part of the context of any research study is the nature of the researcher and the characteristics of the setting.

In the other two paradigms of constructivism and critical theory, ‘reality is perception’ and so generalisation of one research finding about someone’s perceptions to another person’s ‘theory’ about reality, cannot be done. For example, in constructivism, findings are related to individual views of the world and create a world of multiple constructed realities. Constructionism views the world as being internally created through constructs, or internal models. We thus view the world through these constructs and which have significant and often unrealized effect on our perceptions. There are two parts to a construction: the elements themselves and the connections/relationships between them. Construction can thus involve

adding new elements or making new connections. Removing and changing are also options, as well as addition.

Such views cannot be usefully compared with those of other individuals (as in post-modern research) (Bazeley 2004). Similarly, in the critical theory paradigm, perceptions are judged by their appropriateness to subjective conventions such as beauty and justice (as in feminist research) (Perry et al. 1999). Critical Theory is a way of thinking that encourages us to critically approach our assumptions about ourselves and the world. Critical theory has been described as a theory which can provide the analytical and ethical foundation needed to uncover the structure of underlying social practices and to reveal the possible distortion of social life embodied in. As a body of theory, it is complex and multidisciplinary, seeking to explain the whole phenomenon of consciousness and to undermine the ways in which existing consciousness perpetuates existing societies (Charmez 1995).

Table 5.1: Four Scientific Paradigms

Element	Paradigm			
	Positivism	Constructivism	Critical theory	Realism
Ontology	Reality is real and apprehensible	Multiple local and specific “constructed” realities	“Virtual” reality shaped by social, economic, ethnic, political, cultural, and gender values, crystallised over time	Reality is “real” but only imperfectly and probabilistically apprehensible and so triangulation from many sources is required to try to know it
Epistemology	Findings true – researcher is objective by viewing reality through a “one-way mirror”	Created findings – researcher is a “passionate participant” within the world being investigated	Value mediated findings – researcher is a “transformative intellectual” who changes the social world within which participants live	Findings probably true – researcher is value-aware and needs to triangulate any perceptions he or she is collecting
Common methodologies	Mostly concerns with a testing of theory. Thus mainly quantitative methods such as: survey, experiments, and verification of hypotheses	In-depth unstructured interviews, participant observation, action research, and grounded theory research	Action research and participant observation	Mainly qualitative methods such as case studies and convergent interviews
<i>Note: Essentially, ontology is “reality”, epistemology is the relationship between that reality and the researcher</i>				

and methodology is the technique used by the researcher to discover that reality.

Source: Based on Perry et al. (1999), which itself was based on Guba and Lincoln (1994) from which the quotations come

Source: Sobh & Perry, 2006

5.3 THE POSITIVIST APPROACH AND ITS APPLICATION TO THE RESEARCH PROBLEM.

One of the key tenants of positivism is that it takes a reductionist approach to exploring the relationships between the variables being studied. This is necessary in order to be able to control an experiment or an investigation and thus be able to understand how the variables concerned are behaving. This reductionist approach must by its very nature lead to simplifications of the real world environment in which the variables naturally or usually exist. This simplification means that the results of positivist research report on a situation or setting in which some of the complicating factors have been stripped out (Wessley 1994).

Social scientists adopted the positivist approach when the social sciences were emerging towards the end of the nineteenth century because the approach had been used successfully previously in many of the natural sciences (Hussey & Hussey 1997; Capra 2002). The positivism paradigm is the most widely used paradigm for business school research (Orlikowski & Baroudi 1991) and assumes implicitly or explicitly that reality can be measured by viewing it through a one way, value-free mirror (Perry 2002). It can be suggested that the positivist paradigm is a 'top-down, outside-in' research approach and that the phenomenological paradigm is a 'bottom-up, inside-out' research approach and that positivism is relevant for getting an overview and for considering the broad structure of decisions (Mangan et al. 2004).

Positivist research imposes logic on what is being measured and relies on theory to 'test' the subject of the research through quantitative methods. To achieve this, the positivist research uses quantitative methods such as surveys and questionnaires, which set out and make clear the research procedures to be used. By employing such methods, the researcher believes it is possible to neither affect nor be affected by the research being undertaken, therefore generating 'objective' results (Guba & Lincoln 1994).

Carson and Coviello, (1996), Brown (1996) and Eisner (1985) presented their views on the scientific versus artistic approach to research and taking into account Easterby-Smith et al (1991) features of the positivist paradigm. The following table (Table 5.2) uses this literature

to provide a summary of the justification of the use of the positivist approach in this research.

Table 5.2: Justification for the Use of the Positivistic Approach

Criteria	Relevance to this research
Research questions	Positivist paradigms usually address research problems with a ‘what or how should?’ question, (Perry 2001) and relate directly to the research questions outlined for this study in 5.1.1.
Role of Prior Theory	Prior theory is used to give direction to the testing of theories that have been built up before data is collected (Perry 2001). In this case, the conceptual model and hypotheses were based on and justified by prior theory.
Unit of Analysis	The unit of analysis in this study is the firm as the research questions seek to ascertain the level of network capability and level of international performance, using objective measures.
Measure of Quality	Positivism researchers consider internal validity, reliability; construct validity and external validity to be essential for quality (Chia 1997; Neuman 1997). Each element can be measured using statistical methods in this study.
Mode of representation	Formal statements; literal language.
Appraisal criteria	Validity paramount, unbiased methods of data collection and analysis conclusions supported by evidence; Reduce phenomena to simplest elements.
Point of focus	Concentrates on overt or expressed behaviour (which can be recorded, counted and analysed).
Nature of generalization	Extrapolates from particular to general; randomly drawn sample is deemed representative of population of interest and statistically significant inferences drawn about latter from former, i.e. telecoms sector.
Role of form	The world is external and objective; Observer is independent; Science is value free; Results reported in neutral unembellished manner (third person past tense) and according to a standard format (problem, literature review sample, analysis, implications).
Degree of licence	Factual emphasis; little scope for expression or flights of imaginative fancy.
Prediction and control	Aims to anticipate the future accurately thus enabling or facilitating its control. i.e. testing if network capability is positively related to international performance.
Sources of data	Operationalising concepts so that they can be measured. Standardized instruments, such as questionnaire surveys used to collect data.
Basis of knowing	Methodological monism; only formal propositions provide knowledge (affect and cognition separate); Hypotheses formulated and then tested.
Ultimate aims	Discovery of truth and laws of nature propositions taken to be true when they correspond with the reality they seek to explain.

The positivist approach involves developing a conceptual and theoretical framework, which is then tested by empirical observation (Gill & Johnson 1991). In the deductive process the researcher decides on certain concepts which represent the important aspects of the area being investigated. Because concepts are not observable they have to be ‘operationalised’ or

translated into observable indicators which can be tested. Through operationalisation the researcher is able to set clear instructions on what s/he wishes to observe which then enables the testing of hypotheses and theories through the collection of empirical data. The issues highlighted by the theory or hypotheses are compared against the data collected. These facts will either lend support or be contrary to the theories or hypotheses put forward. The emphasis in this approach as Gill and Johnson (1991) state is not where the theories or hypotheses came from but how they are tested and justified.

A research design can be defined as a framework or blue print for a research study, which specifies the methods and procedures for collecting and analysing the required information (Churchill 1999; Hair et al. 2006; Malhotra 2007). The choice of the proper research design is crucial to ensure that the study will provide relevant information to the research objectives.

The decision as to which research design should be adopted for the current research study was guided by the nature of the study and research objectives. Exploratory research was not selected as it cannot be used to test hypotheses and its findings are regarded as tentative rather than conclusive. Causal research could also not be adopted since it is not possible to manipulate and control the variables that are being used in this study. As a result descriptive research was deemed to be appropriate for the purposes of the present research study given that it was the only research design able to test the conceptual model and hypotheses developed in the previous chapter. Regarding the choice between a longitudinal design and a cross-sectional design, the latter was considered the better option due to time and cost constraints. As the conceptual model and hypotheses were tested on firms drawn from the general telecommunications sector, the following section profiles this industry under investigation.

5.4 THE RESEARCH METHODS

The following section details the nature of the research problem and how the research approach to empirical investigation.

5.4.1 Preliminary Research Methods

The preliminary research in this study involved general literature searches and reviews, interviews and observation. The objective of the literature search and review was concerned with identifying the contextual and conceptual issues for empirical investigation. This involved a review of the extant literature in the two parent disciplines, namely network theory and internationalisation theory. Literature on the network approach spans the early organisation theory to trace the emergence of the network as an organisational form right up to current literature. The literature review on internationalisation began with the early work emanating from the 'Uppsala School' in the mid to late 1970s and then went on to review the various process/stage models that emerged. The more recent literature on internationalisation challenges these stage models and proposes investigating other theories such as network approaches to internationalisation. Literature on networks specifically in the internationalisation process was also been reviewed to understand the current level of knowledge and research in the area.

Additional exploratory research methods included attendance at key conferences in the area, for example, the Mc Gill conference on International Entrepreneurship and the Academy of International Business (Ireland and UK chapter) conferences and events provided an opportunity to network with the main researchers/authors in the relevant fields. Early presentation of work at these conferences allowed for submission and publication of papers in peer reviewed journals such as the International Journal of Entrepreneurship and Innovation Management. Feedback from reviewers and editors were incorporated where relevant. (See Appendix 1 for a complete list of publications related to this research study).

Apart from reviewing literature in the main domains, literature on methodology and conceptual models and frameworks from international business, networks and related disciplines e.g. organisational theory, relationships marketing, value chain relationships, were also reviewed. The purpose of this was to devise a model or framework that would encapsulate all the relevant constructs for investigation and to come up with an appropriate methodology to test these constructs empirically.

From an industry perspective, the researcher used observation methods to gain insight into industry networks firstly by attending regular meetings (as an observer) of the European Digital Media Network (An EU funded programme run by Shannon Development).

Secondly, the researcher attended meetings (as a committee member) of the industry led training network on International Trade (run by Skillnets and Chambers Ireland). Both of these networks provided insight into the actual functioning of networks, high technology firms and international trade/training issues. Notable points emerging from this exploratory aspect of the research were:

- The role played by the network broker, such as, Shannon Development and Chambers Ireland;
- The objective, purpose or *raison d'être* for the network;
- The dynamic nature of firms in the high tech digital media industry in terms of technological change and competition;
- The key role international markets play in continued growth for firms;
- The issues facing small firms in entering foreign markets, such as financial/time constraints in relation to up skilling e.g. trade documentation and compliance (Approved Economic Operator);
- The observation that some companies gained more from network participation than others.

5.4.2 Data Collection Methods

The variables used in this research are based on literature pertaining to the internationalisation of SMEs and to the network approach. Researchers on internationalisation have predominantly used quantitative methods such as surveys to study pertinent phenomena. The application of quantitative methods in the current study is consistent with these internationalisation studies from a methodological point of view. However, researchers on the network approach have used case studies as the dominant method (Forsgren 1989; Axelsson & Johanson 1992; Gadde & Hakansson 1993). However, there are exceptions: Gadde & Mattsson (1987) extricated data about stability and change patterns in industrial buyer seller relationships from three available studies and presented the findings as if it were based on survey data rather than describing different cases. Hakansson (1987) employed a detailed questionnaire to collect data for his study on technological cooperation in networks. Furthermore, the survey method was used to create a database, which helped the IMP group, by providing information for numerous studies (Hakansson 1982; Turnbull & Valla 1986; Hallen et al. 1991). Therefore, there is a validated precedence

in both research domains to use survey research, and the use of a similar standard instrument, collection and method is deemed appropriate for this study.

Once the research design is clearly specified, an appropriate research method must be selected for collecting the data. As stated earlier, descriptive research was considered the most appropriate research design for the purpose of this study. The three research methods that are associated with descriptive research are: surveys and panels and observation (Malhotra 2007).

Considering the characteristics of the present study, it was concluded that the survey was the only appropriate method to collect the data and to test the research hypotheses and the conceptual model. Once the method has been established it was necessary to select among the available survey alternatives: face to face interviews, telephone interviews, and mail surveys (Churchill 1999).

Each survey method has advantages and disadvantages that the researcher must take into consideration. Thus, in determining which of the three methods is the most suitable for this study, the advantages and disadvantages were carefully balanced in relation to the needs and objectives on the study, and it was decided that the mail questionnaire was the most appropriate choice. This decision was driven by the following factors: first, mail surveys have been traditionally used in internationalisation/export studies (Madsen 1987; Robertson & Chetty 2000; Styles 1998; Zou et al. 1998). Second, the target population was dispersed geographically. Third, it allowed the respondent to remain anonymous and therefore more willing to provide confidential or sensitive information. Fourth, the large quantity and type of information required. Finally, cost and time constraints were also taken into account. Thus, all these factors considered together legitimated the adoption of the mail questionnaire. In particular, 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 the 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.

5.5 DEVELOPMENT OF THE QUESTIONNAIRE

Once it was decided to use a mail questionnaire the next step was the questionnaire design.

This is a very important step since the quality of the questionnaire determines the success or failure of a research study (Bagozzi 1994). Five steps are considered necessary for the successful design and development of questionnaires: (1) problem definition; (2) prepare a draft of a questionnaire; (3) perform a critical review; (4) conduct a pre-test and evaluate the results; and (5) revise the questionnaire and implement the main study.

5.5.1 Determine what is to be measured

As Bagozzi (1994, p.37) stated “the best place to begin is with the problem one desires to solve or the theory one wishes to test”. Thus, the first step in the process was undertaken in the previous chapter with the conceptualization of the model and development of the research hypotheses, which specified what information, was needed in order to achieve the objectives of this study. Another important consideration before the development of the questionnaire relates to how the data will be collected. As discussed previously it had been decided to use a mail questionnaire to collect the data. Consequently, the next steps regarding the preparation of the questionnaire had to build upon, and be consistent with those decisions previously made.

5.5.2 Prepare a draft of a questionnaire

The steps that a researcher has to follow in order to prepare a draft of a questionnaire are presented here in sequence. It starts with the issue of measurement, that is, on how to measure the conceptual construct developed in the previous chapter. Next, the problems relating to the question wording and sequence are discussed. Ultimately, the physical characteristics of the questionnaire are described.

5.5.3 Operationalising the constructs

It was necessary to devise ways of measuring the constructs developed in the conceptual model. Constructs are operationalised by selecting measurement scale items and scale types. In survey research, operationalising a construct often involves a series of scale items in a common format such as a Likert scale or a semantic differential scale (Hair et al. 2006). There are two common approaches to scale development: scales from prior research and new scale development. The process for scale development in the current study followed DeVellis’s (2003) guidelines. Firstly, existing scale items from relevant literature were considered in generating an item pool. Items were considered based on how they fitted with

the scope of the conceptual model and the resulting hypotheses as outlined in chapter four. This stage resulted in an item pool of just over two hundred items. The second stage of scale development involved working through the items to eliminate duplicate items and items that were deemed irrelevant or inappropriate for this study. Almost half of the items from the original list were eliminated at this point. A level of redundancy was included in this list as De Vellis (2003) considers redundancy with respect to content as an asset instead of a liability as it is the foundation of internal consistency reliability, which in turn is one of the foundations of validity. All items at this stage are positively worded.

The next step was to determine the format for measurement. The vast majority of constructs under investigation were operationalised as multidimensional in nature, and therefore multiple indicators were used for their measurement. Most of the indicators were measured using a seven point interval scale with relevant anchors (for example, All the time/Never) in order to facilitate the use of statistical analyses. The response options were worded so as to have roughly equal intervals with respect to agreement. In accordance with De Vellis (2003), a seven point scale was adopted so as to include a neutral midpoint. The indicator, measurement and source of each construct included in the questionnaire prior to piloting are illustrated in Table 5.3.

Table 5.3: Source of Measurement of Constructs

Construct	Indicator	Measurement	Relevant Literature
Strong V Weak ties	Type of cooperative arrangement – ranging from negligible to high levels of inter-organisational dependence incorporating international market entry modes	Seven point Likert scale	Contractor & Lorange (1988) Rowley et al (2000), Capaldo (2007), Manolova et al (2002), Buckley (1989), Ruzzier et al (2007), Agndal &Chetty (2007)
Relational Capability	Relational embeddedness Relational skills Relational capital Social qualifications/competence	Seven point Likert scale	Bonner et al (2005), Heide &John (1992), Grundlach et al (1995), Rindfleisch & Moorman (2001), Kale et al (2000); Dyer & Singh (1998), Madhok (1995), Dyer(1996), Gulati (1995),Inkpen (1994),Badaracco(1991); Mohr & Spekman(1994),Loxton & Weerawardena (2006), Tushman & Nadler, (1996), Browne, (1997), Foray (1997), Ritter & Gemünden (2003), Marshall et al (2003), Ritter & Gemünden (2003)
Trust	Relational/Interpersonal Trust	Seven point Likert scale	Sividas &Dwyer (2000), Wincent (2005), Moran (2005)

	Transfer of resources/information Trust in others to fulfil obligations		
Initiation	Network sensing – actively seeking information on new partners/opportunities Market and partner knowledge	Seven point Likert scale	Walter et al (2006), Loxton & Weerawardena (2006), Bonner et al (2005), Ritter & Gemünden (2003)
Coordination	Synchronize activities of organisations Rules, procedures, meetings, appointing coordinators, matching resources etc Conflict management Partner integration	Seven point Likert scale	Ritter & Gemünden (2003), Bonner et al (2005), Loxton & Weerawardena (2006), Kale et al (2000), Parkhe (1993), MacNeil (1980), Mohr & Spekman(1994).
Learning	Alliance/network learning Absorptive Capacity Assimilating and disseminating up to date information on partners Use of information to select partners/identify opportunities	Seven point Likert scale	Grant & Baden Fuller (1995), Cohen & Levinthal (1989), Lane & Koka (2006), Walter et al (2006), Loxton & Weerawardena (2006), Bonner et al (2005).
Human Capital Resources	Specialist qualifications Technical capabilities Specific industry knowledge Experiential knowledge	Seven point Likert scale	Ritter & Gemünden (2003), Tushman & Nadler, (1996), Doz & Hamel (1997), Ritter & Gemünden (2003), Blomstermo et al (2004), Medlin (2006).
Synergy Sensitive Resources	Combining complimentary resources The level of similarity Proportion of partners resources that is synergy sensitive with firms Knowledge redundancy Resource integration	Seven point Likert scale	Kale et al 2000; Beamish (1987); Harrigan(1988);Geringer (1988); Parkhe(1993); Dyer & Singh(1998); De la Sierra (1995), Rindfleisch & Moorman (2001), Li & Lin (2006)
Information Sharing	Ability to exchange, assemble, integrate and deploy valuable information across boundaries Network information potential	Seven point Likert scale	Li & Lin (2006), Walter et al (2006), Moller & Torronen (2003), Berghman et al (2006), Yeoh (2004)
Performance	Satisfaction with domestic and international market share, sales growth, profitability, turnover. International customer loyalty and retention % foreign turnover to total turnover	Seven point Likert and semantic differential scale and open ended question	Roberston & Chetty (2002), Sousa (2003), Loxton & Weerawardena (2006)

Once the items were adapted and worded to fit with the topic of interest, the list was then

reviewed by people knowledgeable in the content area or subject matter experts in the academic and telecommunications fields. This initial feedback was centred on clarity and sequence of the questions and the overall impression of the questionnaire. Based on the feedback from this stage of the development process some items were deleted where there was duplication or overlap, and other items were reworded to improve clarity. Advice on the general layout and physical appearance of the questionnaire was given. For example, in a word document format, the questionnaire was eight pages long and would not entice respondents to respond. Also the issue of timing was raised and the feedback given was not to expect any more than ten minutes of CEOs time to be dedicated to completing the questionnaire. This feedback was taken on board and a graphic designer was engaged to work on the layout and style of the questionnaire.

5.5.4 Measures of theoretical constructs

Development of a composite measure for the international SME's networking capability provides an important contribution to the international business literature (Loxton & Weerawardena 2006). As outlined in the previous chapter, network capability for the purpose of this study comprises network characteristics, network operation and network resources. Network characteristics includes: tie strength, relational capability and the level of trust between partners. Network operation focuses on network initiation, network coordination and network learning capabilities. Network resources comprise network human capital resources, synergy sensitive resources and information sharing within the network. Networking capability is a multi-level construct. According to Thomas et al (2007) it can be assessed at the individual as well as the organisational levels, and it is hard to imagine how it will succeed at the organisational level if people lack commitment and collaborative skills. Therefore, even though the unit of analysis in this study is the firm, a number of questions have been written to examine people and their individual networking capability. The measurement of each element will now be discussed in turn.

5.5.4.1 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 & 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 & 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.

5.5.4.2 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 & 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 & Nadler 1996; Brown 1997; 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 & Sheikh 2000) and an additional item is included to capture this.

5.5.4.3 Trust

Three items developed from Sivasdas 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 ongoing interactions and alignment of goals and values.

5.5.4.4 Initiation

Initiation activities, partner knowledge and network sensing are the three dimensions of the eight item initiation scale, four items on initiation activities are taken from Walter et al's

(2006) scale and one item from Ritter and Gemünden's (2003) relationship specific scale. Partner knowledge draws on the work of Loxton and Weerawardena (2006) and includes two items from their partner knowledge scale. Network sensing, which is the degree to which a firm actively seeks information on new alliance partnership opportunities, draws two items from Bonner et al's (2005) scale.

5.5.4.5 Coordination

Coordination includes the establishment and use of formal roles and procedures and the utilisation of constructive conflict resolution mechanisms (Helfert & Vith, 1999). Accordingly, network coordination is measured on a six item scale with three items on coordination activities taken from Walter et al's (2006), two items on partner integration and conflict resolution from Kale et al's (2000) and one item from Loxton and Weerawardena (2006) on formalising network relationships.

5.5.4.6 Learning

Kale and Singh (2007) suggested that network learning involves deliberate efforts to articulate, codify, share and internalise alliance management know-how in firms. Three items were taken from Kale and Singh's (2007) scale on alliance learning, three items are taken from Bonner et al's (2005) network learning scale and deals with issues such as conducting reviews of network learning and how that learning modifies subsequent behaviour. Two items are taken from Loxton and Weerawardena's (2006) learning scale and deals with feedback and decision making around network activities.

5.5.4.7 Human Capital Resources

The network human capital resources relevant to this study include: technical capabilities, network management, industry knowledge, network experiential knowledge and international experiential knowledge. Measures of these dimensions are drawn from Hsu and Pereira (2008) scale on resources available for international expansion, Blomstermo et al's (2004) scale on perceived internationalisation experiential knowledge, Ritter and Gemünden's (2003) specialist qualifications scale and Westhead et al's (2001) scale item on resources in terms of industry knowledge.

5.5.4.8 Synergy Sensitive Resources

Researchers have posited that compatibility of partners is an important aspect of fit that affects alliance outcomes (Kale et al., 2000). Compatibility in terms of resources is the key issue here and in particular, how the combined resources of network partners are integrated to provide enhanced performance outcomes. The synergy dimension is measured by three items from Medlin's (2006) scale on resource efficiency through ties, four item scale on partner fit: complementarity and compatibility from Kale et al's (2000) and one item on overall synergy from Li and Lin's (2006).

5.5.4.9 Information Sharing

Cohen and Levinthal (1990) have pointed out that the evaluation, the acquisition, the integration, and the commercial utilisation of new knowledge is particularly dependent on the intensity and the frequency of interactions with other entities. This dimension of information sharing in this study is measured by using four items from Li and Lin's (2006) resource integration and information sharing scale in relation to the nature and timing of information sharing. The spontaneity of information exchange is captured by an item from Walter et al's (2001) scale on network information potential. Information accessibility is covered by an item from Yeoh's (2004) scale on the same topic, and systematic knowledge transfer across partners is taken from Bonner et al's (2005).

5.5.4.10 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 & Kohli 1993), financial performance (Narver & Slater 1995), 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). The third dimension, customer satisfaction, entails a more qualitative measure. For customer satisfaction, respondents were asked to consider on a (seven-point) semantic differential scale the extent to which they felt their firm had *high* or *low* levels of customer satisfaction, loyalty and trust. These softer, more subjective satisfaction measures with the more objective performance dimensions are deemed appropriate for reflecting this higher-order construct

5.5.5 Question wording

Another step in preparing a draft of a questionnaire refers to the question wording. The phrasing of each question is a critical task, because inadequate phrasing of a question can cause respondents to refuse to answer it or to answer incorrectly, either on purpose or because of misunderstanding. This becomes even more important with mail questionnaires. Accordingly, effort was made to phrase the questions as simple and direct as possible using words that are familiar to the respondents. It was also considered important to avoid leading questions, implicit alternatives and assumptions (Churchill 1999; Malhotra 2007).

5.5.6 Question Sequence

Once the form of response and specific wording for each question was decided, it was necessary to begin the actual questionnaire construction. The sequence in which the questions are presented in the questionnaire is crucial for the success of the study, as it may influence the nature of the respondent's answers and cause error in the survey findings (Kinnear & Taylor 1991). There is no definitive method to guide the researcher in this activity.

However, there are some general guidelines and rules of thumb that suggest the following: opening questions should be interesting, easy to answer and non-controversial; questions that could be perceived as difficult or sensitive should be placed late in the sequence and after a relationship has been established and the respondent is involved in the process; questions that are of similar content should be grouped together so as to reach the proper answer in memory and to maintain the focus of the respondent; the funnel approach should be adopted (i.e. starting with general questions which are followed by progressively specific questions); information needed in subsequent questions should be asked first, and questions should be arranged in logical sequence (Bagozzi 1994, Hair et al. 2006; Malhotra 2007). Consequently, every effort was made to apply these guidelines in this study.

5.5.7 Questionnaire Appearance

After establishing the sequence of the questions, attention has to be paid to the questionnaire appearance. The physical characteristics cannot only influence the degree of respondent cooperation, but also the quality of the data collected. This is particularly true with mail questionnaires, because the questionnaire has to sell itself. A professionally presented,

attractive mail questionnaire can increase the chances of respondent cooperation (Bagozzi 1994, Hair et al. 2006; Malhotra 2007).

Consequently, in order to present the questionnaire in a professional and attractive format, the following actions were taken: (1) according to Dillman (2007) the questionnaire was printed as a booklet (four pages in this case); (2) to ensure high quality of printing as well as paper, the services of a professional graphic designer and printing company were employed; (3) the questionnaire was divided into sections with separate topics for each section; (4) to make the questionnaire aesthetically pleasing, headings in a striking colour (red) were used to convey categories of questions so as to reinforce how information is stored; (5) to create a positive first impression to respondents the front page was carefully designed and incorporated the logo designed for the study encompassing symbols of both the telecommunications and internet industries, and a logo of the school and the title of the study. In contrast to Dillman's (2007) recommendation, it was not feasible to have the back cover consisting mainly of an invitation to respondents to provide additional comments. Instead, questions were continued on the back page and some space was left at the end of the second column. Finally, an expression of thanks and appreciation to respondents for participating in the study was also included at the end of the questionnaire.

5.5.8 Pilot Work

“Questionnaires do not emerge fully fledged; they have to be created or adapted, fashioned and developed to maturity” (Oppenheim 1972, p. 47).

The first step was to assess if the questionnaire had a strong content validity. Content validity, also known as face validity, is established by asking an expert in the field to assess whether, in his or her opinion, a particular measure of question is in fact measuring what the researcher is interested in (Barnes 1991).

Generally, when measures are either developed for a study or they are taken from a variety of sources, some type of pre-test or pilot should be performed. The pre-test should use respondents similar to those from the population to be studied so as to screen for appropriateness (Hair et al. 2006). Pretesting is particularly important when scales are applied in specific contexts or in contexts outside their normal use. Empirical testing of the pre-test results is done in a manner identical to the final model analysis. Items that do not behave statistically as expected may need to be refined or deleted to avoid these issues when the final

model is analysed. The pre-test is particularly important for this study as only one measurement instrument will be used to collect data, which may cause the threat of common method bias (see section 5.12).

The first draft of the questionnaire was reviewed by academic and industry representatives. Suggestions for improvement from this review stage were taken on board and a second version of the questionnaire was produced. It was decided to perform a pre-test on a sample of target respondents. The questionnaire was piloted on the executive of the Telecommunications and Internet Federation of Ireland as this body is the representative sectoral group of Irish Business and Employers Confederation (IBEC) and also a sample of the intended population. It was determined that the key informant would be at the senior management level or have general management responsibility for international trade. The rationale for sending the questionnaire to senior managers was based on the traditional notion that their values and management philosophies influence the strategic decisions and performance of the firms (Covin & Slevin 1990; Roberston & Chetty 2000).

During the pretesting, special attention was devoted to the length of the questionnaire. Generally, about half an hour is the maximum one can expect of a respondent to spend answering the questionnaire (Bagozzi 1994). In this study the average time was under fifteen minutes. Based on the evaluation of results from the pre-test it was necessary to revise the questionnaire before implementing the main study. Table 5.4 outlines some of the main changes incorporated.

Table 5.4: Changes Made Following Pilot Test

Main Changes to Questionnaire After Pilot Test
<ul style="list-style-type: none"> • Inclusion of a general first question that was relevant to all • Business category listing moved to organisational profile at the end • Informal partnering arrangements moved from position 1 to 8 in interfirm collaboration question • Reverse coded item on relational capability included in section. i.e. Change 'easily communicate ...' to 'have difficulty communicating...' • Reverse coded item on trust included in section. i.e. Change 'their motives could never be questioned' to 'their motives could be questioned' • Section headings from all sections removed e.g. Learning, initiation etc as they are unnecessary and may mislead respondents • Reverse coded item on resources included in section (9.6) change 'compatible' to incompatible' • The instruction 'please circle the number that best reflects your firm's CURRENT position' included under each question. • Under performance, semantic differential for customer satisfaction, customer retention changed to likert scale and included in previous

- | |
|--|
| <p>section</p> <ul style="list-style-type: none"> • Item relating to customer loyalty deleted • 'Relative to your main competitor' added to instruction for performance rating. • Term 'interfirm collaborations' used in place of networks on question two • Additional questions on impact of networks on international performance and respondent's position added to the end of the questionnaire. |
|--|

Three divergent items were used in the scale items as a means of quality control. The logic here is that these items act like cognitive 'speed bumps' that require respondents to engage in more controlled, as opposed to automatic, cognitive processing (Podsakoff et al. 2003).

The pre-test/pilot results were analysed using descriptive statistics, and checked for internal consistency reliability using inter-item correlations and Cronbach's (1951) alpha. As the reliability coefficients outlined in table 5.5 indicate the scale items form a scale that has reasonable internal consistency (Leech et al. 2005), items with moderate to low correlations were not eliminated at this stage as this would only make a small difference in the alpha.

Table 5.5: Reliability Coefficients for Pre-test

Scale Item Headings	Cronbach Alpha
Network Characteristics	
Form of inter-firm collaboration (strong V weak ties)	0.90
Relational Capability	0.94
Trust	0.58
Network Operation	
Initiation	0.89
Coordination	0.88
learning	0.94
Network Resources	
Human Capital Resources	0.91
Synergy Sensitive Resources	0.93
Information Sharing	0.94
Performance	0.88

Another important aspect that has to be taken into consideration before sending out the questionnaire refers to the cover letter. The cover letter is very important in encouraging a high response rate, as it is usually the first part of the mailing package to be examined by the respondent. It is therefore, important that the cover letter convinces the respondent to cooperate by overcoming any resistance or prejudice the respondent may have against the study.

The cover letter was reproduced on Kemmy Business School stationary. All cover letters were personalised and individually signed by the author. The cover letter consisted of three paragraphs. The first paragraph served as a justification for the study. The second paragraph sought to convince the respondents that their response was absolutely necessary for the success of this study. The last paragraph ensured respondents that all information provided would be kept in strict confidence. (See Appendix 2 to Appendix 6 for a copy of the letters and questionnaire used in this study).

Dillman's (2007) Total Design Method (TDM) was also followed in an attempt to further increase potential response rates. Table 5.6 below provides a summary of how Dillman's Tailored Design Method was applied to this research.

Table 5.6: Summary of TDM application for this study

TDM steps	Application in this study
Research Design	
<i>Objective</i>	
<i>Maximise Reward</i>	Respondents told they were selected to take part in a major study that required their input. The pre -notice and cover letter explained that the research dealt with an issue of high relevance to the selected group, real signatures were used in all correspondence and the questionnaire was made as interesting as possible.
<i>Minimise cost of responding</i>	A four page booklet was used for the questionnaire, respondents were informed of the average length of time for completion, multi-item scales were used for most questions, thereby reducing the mental effort in responding, every effort was made to eliminate chances of embarrassment and implications of subordination. Pre -addressed, stamped envelopes were provided with each questionnaire pack.
<i>Establishing trust</i>	A mouse mat printed with the University logo and a thank you message was enclosed as a token of appreciation with each questionnaire, the logo of the university was on the cover page of the questionnaire.
Questionnaire Construction	
<i>Design and printing</i>	A graphic design company was used to set the questionnaire in an A3 fold to A4 format, resulting in a 4pp Brochure (Front, centre spread and back page). The text was set in a tint of black, taking the "edge" off of it.
<i>Order of Questions</i>	Most important questions are located at the start of the questionnaire; questions are grouped into sections divided by clearly marked headings, where relevant objectionable questions are positioned after less objectionable ones.
<i>The first question</i>	The first question was selected as it related to the survey topic, it was easy to answer, it used the same answer format as the preceding questions, and it was neutral, applicable to everyone and interesting to everyone.

<i>Constructing questionnaire pages</i>	Lower case was used for questions, 1-7 scales was used for the majority of answers, each question was followed by an answering scale, clear directions for answering was provided after each question in lower case italics, vertical flow was used and transitions in the form of red headings used for a new line of enquiry.
<i>The front cover</i>	Front cover contains the title of the study, logo of the university, logo designed for the study, name, address and contact details of researcher.
<i>The back cover</i>	Back cover contains remaining sections of the questionnaire and some space for respondents to add additional comments. A statement of gratitude in italics is inserted at the very end.
<i>Pretesting</i>	Questionnaire was tested on colleagues, academics, potential users from telecommunications and internet federation and a sample of the population
Survey Implementation	
<i>Pre-notice letter</i>	A pre notice letter on university headed paper noting that a questionnaire for an important survey will be arriving and that their input was essential to the success of the overall study, a real signature was included along with a post script saying a small token of appreciation was included with the questionnaire
<i>The cover letter</i>	A one page cover letter on university headed paper emphasising usefulness, importance of study to target group, confidentiality and gratitude, length of time to complete questionnaire. Dated on the day of posting and real signature used. The cover letter also gave respondents the preference to complete the survey online by simply sending an email to the researcher who in turn sent out a link to the survey designed using survey monkey.
<i>Envelope</i>	White A4 business envelopes were used with typed address labels for recipients on the front and return address of researcher on the back in the case of non-delivery on the recommendation of An Post.
<i>Postage</i>	Regular mail was used.
<i>Identify the questionnaire</i>	A serial number system was clearly presented on the top left hand corner of the front cover.
<i>Return envelopes</i>	Stamped white A4 addressed envelopes were included with the questionnaire pack.
<i>Questionnaire pack</i>	Questionnaire pack included the cover letter, the questionnaire, the mouse-mat and the return envelope all neatly inserted into an A4 envelope.
<i>Mail out date</i>	Mailing was timed to try to ensure that targets received materials mid week.
<i>Thank You post card</i>	An A5 sized post card with design, logos consistent with the questionnaire design was mailed out one week after the questionnaire thanking those that had responded and reminded those that hadn't to do so at their earliest convenience
<i>Email Reminder</i>	Email reminder was sent out to companies who had requested an online version of the survey and had not completed. Also, where a valid email was known for the contact person in the company, a reminder email was sent out to those after two weeks.
<i>Replacement questionnaire</i>	Letter and replacement questionnaire sent out after four weeks
<i>Thank you and reminder post card</i>	Final correspondence - thank you/reminder post card sent out one week after replacement questionnaire.

5.6 ADMINISTRATION OF THE SURVEY

Once the questionnaire had been revised, the next step in the research process is to clearly define the population from which the information will be collected. For the current study, the population comprised of all companies in the telecommunications, internet and related industries. In order to compile a relevant sampling frame, data from the Central Statistics Office (CSO) and The Commission for Communications Regulation (ComReg) were used. NACE codes from the CSO were used to identify the following relevant categories outlined in table 5.7.

Table 5.7: CSO Nace Codes

NACE Code	Label	Synonyms
6110	Wired Telecommunications Activities	An Bord Telecom (Telephone Exchange Staff) , Cable service , Corporate sector internet service provision (wired infrastructure) , Data transmission of via cables broadcasting relay or satellite , Hull telephone service , Images transmission of via cables broadcasting relay or satellite , Internet access provision (wired infrastructure) , Internet service provider (wired infrastructure) , Post Office Telegram and Radio , Post Office Telephones , Sound transmission of via cables broadcasting relay or satellite , Telecom Eireann (Telephone Exchange Staff) , Telecommunications Headquarters , Telegram service , Telegraph communication , Telegraph Manager's Office , Telephone communication , Telephone exchange , Telephone Manager's Office , Telephone service (wired) , Television programmes transmission of , Television relay service , Cable distribution systems operation of , Telecommunication network (wired) maintenance of the , Operating and maintaining switching and transmission facilities ,
6120	Wireless Telecommunications Activities	Corporate sector internet service provision (wireless infrastructure) , Internet access provision (wireless infrastructure) , Internet service provider (wireless infrastructure) , Telephone service (wireless) , Telex service ,
6130	Satellite Telecommunications Activities	Corporate sector internet service provision (satellite infrastructure) , Internet access provision (satellite infrastructure) , Internet service provider (satellite infrastructure) , Telecommunications Satellite Relay Station
6190	Other Telecommunications Activities	Satellite tracking provision of , Communications telemetry provision of , Radar station operation of , Satellite terminal stations operation of , VOIP (Voice Over Internet Protocol) provision of , Internet service provider (network not owned or controlled by the ISP) , Telecommunication resellers (purchasing and reselling network capacity without providing additional services) , Telephone and internet access in facilities

6311	Data Processing, hosting and related activities	Computer bureau (processing) , Data accessibility provision to users sorted on demand , Data bank , Data Base activities , Data entry services , Data processing , Data processing consultants (own account) , Data provision by on-line data retrieval , Data storage services , Database activities , Tabulating service , Web hosting , Computer HUB services , Database related activities , Streaming services or application hosting , Application service provisioning , On-line provision of software ,
6312	Web Portals	Web search portals , Web sites with search engine operation
6399	Other information Services Activities n.e.c	Enquiry agency , Computer-based telephone information services , Information bureau (not tourist) , Information search services on a contract or fee basis , Information service activities , News clipping services , Press clipping services , Press cutting agency , Public record searching , Researcher (own account)
6209	Other information technology and Computer Service Activities	Computer disaster recovery services , Computer related activities other , Computer software and hardware installation services , Document scanning , Internet Activities , Internet cafe , Provision of refurbished computers , Sale of Web site on Internet , Time hire (computer) , Installation (setting-up) of personal computers

This list was cross checked against Standard Industrial Classification codes (SIC) to produce the following counts of companies in Ireland taken from Dun and Bradstreet, Business and Finance and Bill-Moss Partnership listings (Table 5.8).

Table 5.8: Area of Company Activity

Category	NUMBER OF RECORDS
Computer Consultancy	168
Computer Services Miscellaneous	12
Computing and Bureau Services	34
Data Communications	48
Internet Services and Web Design	540
Telecommunications	158
Telephone Cost Management	3
TOTAL	963

This list was further cross checked against the *Electronic Register of Authorised Undertakings* (ERAU) established and maintained by ComReg. Under Section 4 (1) of the European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2003 (S.I. No. 306 of 2003), any person intending to provide an electronic communications network or service shall, before doing so, notify the Regulator of his intention to provide such a service.

5.6.1 Definitions of Electronic Communications Networks and Services

Electronic communications network and electronic communications service are defined in the European Communities (Electronic Communications networks and Services) (Framework) Regulations 2003 (SI no. 307 of 2003) as follows: 'Electronic communications network' means transmission systems and, where applicable, switching or routing equipment and other resources which permit the conveyance of signals by wire, radio, by optical or by other electromagnetic means, including satellite networks, fixed (circuit-and packet-switched, including internet) and mobile terrestrial networks, electricity cable systems, to the extent that they are used for the purpose of transmitting signals, networks used in radio and television broadcasting and cable television networks irrespective of the type of information conveyed. An 'electronic communications service' is defined as a service normally provided for remuneration which consists wholly or mainly in the conveyance of signals on electronic communications networks, including telecommunications services and transmission services in networks used for broadcasting (ComReg 2008).

5.7 SAMPLING AND RESPONSE RATE

With the addition of the ERAU list, the total count rose to 1185. Out of these 338 companies had to be contacted to provide additional information in terms of employee numbers and contact names for research purposes. The telephone contact with these companies was the first point of contact between the researcher and the respondents. In establishing this initial contact with a sub-set of the sampling frame, additional information was also elicited in the form of direct telephone lines and email addresses. Email addresses proved useful later in the process as another means of reminding respondents to complete and return the questionnaire. As outlined earlier, additional contact and rapport was built up through pre-notice letters, questionnaire mail out, reminder post cards and follow up letters.

As this study relates to the activities of SMEs, companies with over 250 employees were eliminated. In order to assess the level of network and international activity of business, firms in the sample would have to operate on a full time basis; therefore it was decided to eliminate companies with 3 or less employees from the sampling frame. The rationale for this was based on OECD Figures (1998) which showed that about 40 % of SMEs in Ireland are engaged in export activity, and 53% of SMEs with more than 3 employees have been

engaged in some export activity. The database was further screened for companies that have gone out of business, merged or acquired by another company and are no longer operating in the relevant sector. The final number of companies for the sampling frame was 800.

From the telephone contact with companies, a number of companies indicated a preference for receiving surveys by email/web. As a result a copy of the questionnaire was developed for the web, and relevant companies in the sample were emailed with the link for completing the questionnaire. Furthermore, recipients of the mail survey were given the option of completing the questionnaire online as well as the postal route.

In deciding the size of the sample for this study, four factors were taken into consideration: the level of sampling error, the population size, how varied the population is with respect to the characteristic of interest and the confidence level (Dillman 2007). Therefore in accordance with Dillman (2007) and using an acceptable sampling error of .03 of the true population value, 800 as the population size, maximum variation as .5 and a 95% confidence level, the appropriate size of the sample was calculated as 458.

Using simple random sampling through the data analysis function of Excel, a sample of 458 firms was selected. The response rates for this study are provided in table 5.9.

The majority of respondents opted for the mail survey as opposed to the online version. Only seven companies completed the online survey. The feedback in relation to the layout, design and overall professional appearance of the questionnaire pack was very positive, with many respondents adding additional complimentary slips and business cards with an invitation to return to them is additional information was required.

Table 5.9: Response Rates

	Number of Firms	Percent
Population/Sample	458	100
Total responses	185	40.39%
Company did not trade	1	0.22
No longer in business	3	0.65
Refusals (confidentiality reasons)	3	0.65
Study considered not relevant to the business	10	2.18
Incomplete	1	0.22
Company has been involved in merger/takeover/acquisition	4	0.87
Companies gone away/ no longer at address given	9	1.96
Total Usable Responses	154	33.64%

A missing data process, which is any systematic event external to the respondent (such as data entry errors or data collection problems) or any action on the part of the respondent (such as refusal to answer) that leads to missing values (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 when the data was entered into LISREL 8, using Prelis 2.80 to impute individual missing values using the EM algorithm as outlined by du Toit and du Toit (2001). Using this method an overall missing value pattern of 0.6% was detected and corrected using estimated means.

5.8 RELIABILITY

Reliability is a characteristic of a measuring instrument or test which yields consistently similar results when repeatedly applied. There is always some variation due to chance error. By using reliability estimates one can account for random measurement errors and compute correlations not attenuated by the imperfect reliability of measures (Carmines & Zeller 1979).

Cronbach's Alpha will be used initially to estimate the reliability of the measures used in this study. The coefficient is conservative, in that it provides the lowest of a number of possible estimates. It also has to be noted that alpha is positively related to the number of items in the scale and to the average correlation among items. However, the more items there are in the scale the less influence one additional item has on alpha. Negative alphas indicate a violation of the reliability model (DeVellis 2003). They occur when too many items are negatively correlated among themselves and/or when the negative correlation is too strong. Slight negativity or small numbers of negative correlations are less influential than their opposites. Alpha can be interpreted as a correlation coefficient, measuring the strength of a relationship between a single item on a scale with all other items on the same scale. In assessing whether to remove items, a compromise between the objective of strong alpha values and retaining many of the original constructs must be considered. When interpreting Cronbach's alpha, apart from the correlations of the scale items, alpha also depends on the number of items per scale. All other things being equal, more items per scale result in higher alpha values. Table 5.10 below shows the overall Alphas for each scale item heading.

Table 5.10: Reliability Coefficients for Main Factors

Scale Item Headings	Cronbach Alpha
Network Characteristics	
Form of interfirm collaboration (strong V weak ties)	0.808
Relational Capability	0.652
Trust	0.704
Network Operation	
Initiation	0.866
Coordination	0.819
Learning	0.847
Network Resources	
Human Capital Resources	0.911
Synergy Sensitive Resources	0.816
Information Sharing	0.876
Performance	0.853

As suggested by Hair et al (2006), alpha values .6 or above means that the indicators are performing well in capturing a particular construct. The .6 limit is more stringent than Bryman and Bell (2003) who found that an Alpha of 0.80 is typically employed as a rule of thumb to denote an acceptable level of internal reliability, and Howitt and Cramer (2001) proposed an Alpha of 0.7 or above as satisfactory.

A very high alpha (greater than 0.9) probably means that the items are repetitious or that there are more items in the scale than are really necessary for a reliable measure of the concept (Leech et al. 2005). As the alphas in this study are relatively high, the reliability tests were run again on a randomly selected split sample of the overall sample. The results of this re-test revealed little difference in the overall alpha coefficients. Secondly, a quality check on the integrity of the response pattern was conducted using the three reverse scored divergent items that were included in the questionnaire. These items are those with negative corrected total item correlations in the table in Appendix 7. Three additional variables were added based on the answering pattern to each question as to whether it was thought that the overall response was ‘doubtful’ or not. The reliability tests were run three times, each time excluded any cases that were considered ‘doubtful’ and again these tests revealed little difference in the

alpha values. The cronbach alphas if item deleted (Appendix 7), if this correlation is moderately high or high (0.4 or above), the item is probably at least moderately correlated with most of the other items and will make a good component of this summated rating scale. If the item is negative or low (0.3 or below) it needs to be considered for elimination. Deleting a poor item will usually increase the alpha, but only marginally, unless the scale has only a few items (5 or less) because alpha is based on the number of items as well as their average intercorrelations (Leech et al. 2005). As the overall alphas are high in this study (i.e. majority scoring above 0.6), all items were retained for further analysis as the values indicate that minor changes in the overall alphas would occur by eliminating items.

5.9 VALIDITY

Validity refers to the extent to which differences in the observed scale scores reflect true differences among objects on the characteristic being measured, rather than systematic or random error (Malhotra 2007). Validity is inferred from the manner in which a scale was constructed (see section 5.6.3 operationalising the constructs), its ability to predict specific events, or its relationship to measures of other constructs (DeVellis 2003).

Researchers may assess content validity, criterion validity, or construct validity.

Content validity is concerned with the content of the survey items (Warner 2008). Content validity involves the question whether the test items represent all theoretical dimensions or content areas. Content validity may be assessed by (1) mapping out the test contents in a systematic way and matching them to elements of a theory or (2) by having expert judges decide whether the content coverage is complete. Both of these steps were undertaken in this research as outlined in chapter four (mapping measures to theory) and chapter five (development stage of the questionnaire where subject matter experts gave feedback on earlier versions).

Construct validity (Cronbach & Meehl 1955) is directly concerned with the theoretical relationships of a variable to other variables. Construct validity is threatened by a number of factors (Cook & Campbell 1979), the first one being the inadequate definition of concepts. This issue has been dealt in this research during the stage of reviewing and synthesizing the pertinent literature. Every effort went into extracting the essential features of each concept

from the literature and incorporating them into the questionnaire as outlined in the previous chapter.

A second threat arises from one dimensional operationalisation of concepts. An improvement of construct validity can be achieved by measuring related concepts and their relationship in more than one way. This study employed a single questionnaire for reasons outlined in section 5.5.2 of the previous chapter. However, the threat of common method bias was subsequently tested for and deemed as not posing a threat in this instance (see section 5.8.3)

Further threats to construct validity may be caused by respondents trying to guess the reason for a question and then answer it most suitably, i.e. in the socially accepted way or in a way expected by the researcher. The pre-notice and the cover letter of the questionnaire clearly stated that the information provided by respondents would be treated anonymously and with strictest confidentiality. As the questionnaire was self report and administered by post, the threat of interviewer bias was minimised. Researchers generally establish the construct validity of a measure by correlating it with a number of other measures and arguing from the pattern of correlations that the measure is associated with these variables in theoretically predictable ways (Western & Rosenthal 2003).

Criterion validity is a measure of how well one variable or set of variables predicts an outcome based on information from other variables. Inter-item correlations were run for all constructs in this study, and as there is no standard network capability measure against which these scale items could be validated, intra-item correlations were run on constructs in each of the three categories of the conceptual model (network characteristics, network operation and network resources). In general, items correlated in theoretically predictable ways with some constructs revealing higher inter-item correlations than others such as, trust, relational capability, human capital resources, synergy sensitive resources, and the overall network operation category correlating high on the intra-item scores.

5.10 ASSUMPTIONS

The initial data screening tested the level of skewness and kurtosis among the variables. As a consequence, all tests of multivariate normality are strongly rejected. Variables were normalised using the procedure outlined by Jöreskog et al (2000).

Prior to conducting multivariate analyses, the data were further screened for univariate and multivariate outliers. A multivariate outlier is a case that has such an extreme pattern of response values across all 75 items that it distorts statistics. Once the data was entered into SPSS 15, exploratory data analysis using box plots was performed to detect outliers. Outliers are observations with a unique combination of characteristics identifiable as distinctly different from the other observations (Hair et al. 2006). The identified outliers were examined for possible procedural errors such as data entry. This was ruled out as a cause of the uniqueness of the observations. On closer examination, the outlier cases were classified as either ‘extraordinary observations’ or ‘observations that fall within the ordinary range of values, but are unique in their combinations of values across the variables’. In accordance with Hair et al (2006) the latter category were retained. The former category (five cases) was selected for elimination, with the following comments from three of these respondents shedding further light on this decision:

1. *“This survey was not really relevant to my business area. Hence all the negatives”*
2. *“We only have a few informal relationships with partners so probably aren’t a good example – that’s why we gave up after question six”* (This case was the only incomplete questionnaire)
3. *“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”*.

Screening for multivariate outliers was done by calculating Mahalanobis distance scores for all cases. Mahalanobis distance is the distance of a case from the centroid of the remaining cases, where the centroid is the point created at the intersection of the means of all 75 network capability items. Five multivariate outliers were detected and deleted. With the additional restriction that analyses be based on complete data (Bentler & Chou 1987), the covariance matrix was based on a sample size of 149.

5.11 NON RESPONSE BIAS

Although the existence of a high response rate provides some confidence that non-response is not an issue (Weiss & Heide, 1993), a test to assess the differences between early and late respondents was carried out (Armstrong & Overton, 1977; Zou et al, 1998; Menon et al.,

1999). Armstrong and Overton's (1977) extrapolation procedure is based on the contention that, contrary to early respondents, late respondents are more likely to be similar to non-respondents. According to Weiss and Heide (1993) early responses were defined as the first 75% of returned questionnaires. The last 25% were considered late responses and were considered representative of firms that did not respond to the survey.

Using a t-test, early and late respondents were compared on several key characteristics such as importance of relationships, operating in export markets, percentage of revenue derived from international markets, importance of international markets to overall performance and number of years exporting.

Table 5.11: Test of Difference between means between early and late respondents

	Early Respondents	Late Respondents	
Variable	Mean	Mean	t-statistic
Importance of relationships with other firms	1.84	1.92	-.280
Exporting to International Markets	1.35	1.27	1.03
Percentage of revenue derived from International Markets	32.6	48.38	-1.83
Importance of International Markets to overall performance	3.82	3.31	1.13
Number of years exporting	5.9	6.1	-.176
No of people employed	38	52	-1.03

As shown in Table 5.11, 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 does not appear to be a significant problem.

Another issue that is worthwhile to consider is to confirm if the sample can be considered representative of the population. Two tests were undertaken to analyse this issue: the chi-square goodness of fit test is to see whether the distribution of data on a nominal scaled variable is consistent with what one would expect from the population. The research question the chi-square goodness of fit test is capable of answering can be stated as follows: is the distribution implied by the sample data likely to be the same as that of the population? The

Kolmogorov–Smirnov test is similar to the chi-square goodness of fit test, except it takes into account that the variable categories are ordinal rather than nominal.

The next step was to select at least one variable to see if the sample can be considered representative of the population. However in order to be able to perform this test, it was necessary that data was available from the population regarding the variable(s) selected. As a result, considering the information available from the population, two variables were selected: ‘location of the firm’ and ‘size of the firm’ (number of employees). Business category was deemed inappropriate for this test despite the fact that the information was available from the population, in the survey, a large number of firms ticked more than one category (31%) and a further 16% added additional business category descriptors in the ‘other’ category as described under industry profile section 5.4. The ‘location of firm’ is a nominal scaled variable and as such the chi-square goodness of fit test was deemed appropriate. The Kolmogorov-Smirnov test was used with ‘size of firm’ (number of employees) as it is an ordinal scaled variable.

The chi-square goodness of fit test consist of computing the actual sample distribution (or observed distribution, as it is usually called) with an expected sample distribution in order to see whether the two differ significantly. Based on the sampling frame the expected distribution of ‘location of firm’ is outlined in table 5.12:

Table 5.12: Location of firm in the Sample Frame

Location	Number of Firms	Percentage
Leinster	576	72
Munster	160	20
Connaught	52	6.5
Ulster	12	1.5
Total	800	100

The following steps will be taken to perform a chi square goodness of fit test, assuming a significance level of 0.05.

Step 1: stating the Ho and the Ha

Ho: The observed and expected distributions of ‘location of firm’ are not identical

Ha: The observed and expected distributions of ‘location of firm’ are identical

Step 2: Determine the critical test statistic value. In this case the significance level need is taken into consideration, which is specified to be 0.05 in this case, and the degrees of freedom (d.f.). The appropriate degrees of freedom in a univariate chi-square test are given by $k-1$, where k is the number of nominal categories (Leinster, Munster, Connaught, Ulster) in 'location of firm',

$$\text{d.f.} = 4 - 1 = 3$$

Thus, the critical chi-square value (χ^2_c) when $\alpha = .05$ and $\text{d.f.} = 3$ is 7.81

Step 3: Stating the decision rule. The decision rule for chi-square tests is: Reject H_0 if χ^2 (computed from the sample data is greater than χ^2_c). That is if the computed value of χ^2 exceeds 7.81, the observed and expected distributions of 'location of firm' are not identical.

Step 4 Determine the χ^2 value using the formula:

$$\chi^2 = \sum_{i=1}^K \frac{(O_i - E_i)^2}{E_i}$$

Where: O_i = observed number in i th category

E_i = expected number in i th category

k = number of categories

Table 5.13: Calculation of the Chi-square for 'Location of Firm'

Location	Observed Sample (O_i)	Sample Percent	Expected Percent	Expected Sample (E_i)	Chi-Square
Leinster	110	73	72	109	.009
Munster	29	19	20	30	.033
Connaught	10	7	6.5	10	0
Ulster	2	1	1.5	2	0
Total	151	100	100	151	.042

Examining this formula carefully shows that the lower the discrepancies between the observed and the expected number, the lower the computed value of χ^2 will be. When the observed and the expected values are equal then $\chi^2 = 0$.

Step 5: Because the calculated χ^2 value (.042) is smaller than the χ^2_c value (7.81) the null hypothesis is rejected in favour of the alternative hypothesis. Stated differently, the sample in this study can be considered adequately representative of the population with respect to ‘location of firm’.

The other variable selected to test if the sample can be considered representative of the population was ‘size of the firm’ (number of employees). As mentioned previously, this variable is ordinal scaled and the appropriate test for examining the fit between the observed and expected frequency distributions of data is the Kolmogorov –Smirnov test. This test is conceptually very similar to the chi-square goodness of fit test. In both tests the hypothesis statement are identical, and the decision rules for rejecting the null hypothesis are of the same form.

Ho: The observed and expected distributions of ‘size of firm’ are not identical.

Ha: The observed and expected distributions of ‘size of firm’ are identical.

However, there are some key differences in the computational procedures. Specifically, in the Kolmogorov-Smirnov test the observed and expected distributions are expressed as proportions (rather than frequency counts) and are converted to cumulative distributions before comparisons are made (See table 5.14).

Table 5.14: The Kolmogorov-Smirnov Test for ‘Size of Firm’ (Number of Employees)

No. Of employees	Observed frequency (O _i)	Observed Proportion (OP _i)	Expected Proportion (EP _i)	Observed Cumulative Proportion (OCP _i)	Expected Cumulative Proportion (ECP _i)
3-19	83	55	62.8	55	62.8
20-49	33	22	19	77	81.8
50-99	18	12	9.7	89	91.5
100-250	16	11	8.5	100	100
Total	150	100	100		

In this case the absolute value of the maximum discrepancy between the observed cumulative proportion and the corresponding expected cumulative proportion occurs in the first category:

$$D = .628 - .55 = .078$$

Assuming $\alpha = 0.05$,

$$D_c = .15$$

(See Kanji, 2006, p. 76).

Since $D < D_c$ the null hypothesis is rejected in favour of the alternative hypothesis, which states that observed and expected distributions of 'size of firm' are statistically equivalent. Stated differently, the sample in this study can be considered adequately representative of the population with respect to 'size of firm'.

If the chi square goodness of fit test is used, the results would be the same (see table 5.15). The critical chi-square value when (χ^2_c) when $\alpha = .05$ and d.f. = 3 is 7.81. Since the calculated χ^2 value (3.71) is smaller than the χ^2_c value (7.81). The null hypothesis is also rejected in favour of the alternative hypothesis.

Table 5.15: Calculation of the Chi-Square for 'Size of Firm'

No. Of employees	Observed frequency (O_i)	Sample Percent	Expected Percent	Expected Sample (E_i)	Chi-square
3-19	83	55	62.8	94.2	1.33
20-49	33	22	19	28.5	0.71
50-99	18	12	9.7	14.5	0.84
100-250	16	11	8.5	12.75	0.83
Total	150	100	100	150	3.71

5.12 COMMON METHOD BIAS

As all the measures used in this research were collected via the same questionnaire, the possibility of common method variance was introduced (Simonin 1999). The amount of variance attributable to method biases varied considerably by discipline and by the type of construct being investigated. For example, Cote and Buckley (1988) found that, on average, method variance was lowest in the field of marketing (15.8%) and highest in the field of education (30.5%).

Harman's single factor test was performed to test for the presence of common method variance bias (Harman, 1967; Podsakoff et al., 2003). All variables were entered into an unrotated principal components analysis. According to this technique, if a single factor emerges from the analysis or one general factor accounts for most of the covariance in the measure scores, common method variance may be present. 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.

5.13 DATA ANALYSIS

5.13.1 Exploratory Factor Analysis

Exploratory Factor analysis was conducted to examine the factor structure of each variable presented in the conceptual model in chapter 4. The purposes of factor analysis are twofold: data reduction and substantive interpretation. The first purpose emphasizes summarising the important information in a set of observed variables by a new, smaller set of variables expressing what which is common among the original variables. The second purpose concerns the identification of constructs or dimensions that underlie the observed variable (Churchill 1999).

In accordance with Hair et al. (2006), it was decided that in order to reduce the number of items and to facilitate interpretation, principal component analysis with quartimax rotation would be used.

Cronbach alpha remains the most widely used measure of internal consistency (Hair et al. 2006). It was, therefore used to test if the indicators of the scale were all measuring the same construct.

5.13.2 Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) tests the uni-dimensionality of a scale initially developed by exploratory factor analysis (Steenkamp & Trijp, 1991). Exploratory factor analysis relies heavily on the inter-correlation among variables to find groupings (factors) of related variables. The analysis is heavily data driven and may suggest how constructs are defined or operationalised, but it cannot be used to test a theory. CFA allows the researcher to specify relationships a priori and to explicitly test them (Byrne 2001). Thus, following Knight (2000) and Menon et al (1999), CFA was used to test and refine the measures.

Confirmatory factor analysis may be viewed as a submodel of the more general structural equations modeling (SEM) approach to analysis. Specifically, CFA is a measurement model of the relationships of indicators (observed variables) to factors (latent variables) as well as the correlations among the latter. Confirmatory factor analysis is generally based on a strong

theoretical or observational foundation that allows the analyst to specify an exact factor structure in advance. The CFA approach usually restricts which variables will load on which factors, as well as which factors will be correlated. This approach also provides significance tests on each factor loading coefficient, in contrast to relying on rules of thumb (e.g., factor loading cut-off criteria of .30 or .40). With CFA, each observed variable has an error term, or residual, associated with it that expresses the proportion of variance in the variable that is not explained by the factors. These error terms also contain measurement error due to any lack of reliability in data for the observed variables. The typical research question with CFA is: Are the covariances (or correlations) among variables consistent with a hypothesized factor structure?

Confirmatory factor analysis was performed on the covariance matrix of the network capability items. The model parameters were estimated using maximum likelihood. The sequence of modelling decisions made, and their resulting summary statistics, are reviewed. One advantage of CFA is that the researcher can specify the simple structure required and obtain feedback on the extent to which this structure is supported by the data. That is, LISREL can estimate one factor loading for each item while setting or 'fixing' its loadings on all other factors to equal zero. LISREL then provides tests of significance for each loading, as well as the various global indexes of how well the hypothesized factor structure fits the data.

In addition, the goodness of fit was assessed for each measurement model. The traditional measure for goodness-of-fit has been the chi-square statistic. It can be regarded as a 'badness-of-fit' measure in the sense that a small chi square corresponds to a good fit and a large chi-square to a bad fit (Jöreskog & Sörbom 1996).

However, this measure has been identified as being of limited use in many situations (Bentler, 1990). The chi-square statistic, for instance, may not be reliable where sample sizes are too small to yield a valid test of model fit, are too large, or when the assumption of multivariate normality is not met. In these cases a significant chi-square statistic may indicate a poor fit when this may not be the case. As a result, MacCallum et al, (1996) proposed changes to the traditional hypotheses testing approach in SEM. As a result, it was decided that a significant chi-square statistic on its own will not be regarded in this study as an indication of bad fit. This is in line with the approach taken in previous studies using SEM (Morgan & Hunt 1994; Byrne 2001).

Thus, in addition to the chi-square statistic, three other model fit measures will be reported, as suggested in previous studies (Baumgartner & Homburg, 1996; Styles 1998). The first is the comparative fit index (CFI) developed by Bentler (1990), which is considered by Bagozzi and Baumgartner (1994) as holding the greatest promise for assessment of overall model fit. Values for the CFI are independent of sample size and fall between 0 and 1 with a score greater than .90 being *usually* considered an indication of acceptable fit (Hair et al. 2006).

The second is the Tucker and Lewis (1973) index (TLI) or sometimes called the non-normed fit index (NNFI) which unlike the CFI, takes degrees of freedom into account and therefore parsimony. Like the CFI, yield values ranging from 0 to 1, with values above .90 being indicative of good fit (Hair et al. 2006).

The final fit index shown is the root mean square error of approximation (RMSEA). The RMSEA takes into account the error of approximation in the population and asks the question: 'How well would the model, with unknown but optimally chosen parameter values, fit the population covariance matrix if it were available?', (Browne & Cudeck 1993, p. 137-138). Like the chi-square, RMSEA is a 'badness of fit' measure, and like the TLI, takes parsimony into account. The lower the RMSEA score the better, with values less than .05 indicating a close fit, and values as high as .08 representing acceptable errors of approximation in the population (Browne & Cudeck 1993; Hair et al. 2006).

5.13.3 Structural Equations Modeling

The use of SEM in international business research has substantially increased recently (Hult et al. 2006). In contrast to the measurement model (CFA), the structural model defines relations among unobserved variables. Accordingly, it specifies the manner by which particular latent variables directly or indirectly influence changes in the values of certain other latent variables in the model (Byrne 2001). This technique allows the use of structural and measurement models simultaneously through the combination of confirmatory factor analysis associated with psychometrics and with econometric multi-equation modelling approaches (Goldberger 1972).

Goldberger (1972) suggests three situations where structural equation modelling may be more appropriate than analytical techniques such as regression: (1) when the observed measurement contain measurement errors; (2) when there is interdependence of simultaneous causation among observed variables; and (3) when important explanatory variables have not

been observed. In these circumstances structural equation modelling enables multiple relationships of dependent and independent variables to be estimated (Hair et al. 2006). According, with SEM it is possible to analyze simultaneously relationships between various network capability constructs and the financial, market and customer satisfaction dimensions of international performance. SEM was selected for the data analysis of this study for the following reasons:

1. All hypotheses in this study are theory driven and were developed based on empirical evidence from previous studies.
2. A multi-item scale was used to measure the meaning of the constructs' concept. In other words, one construct was measured with a few measurement items or indicators. Within SEM, all the indicators are called observed variables while the unobserved (latent) variable is to represent the construct concept. SEM is appropriate to use in this research context as it has the capability to analyze the relationship among the observed and latent (unobserved) variables.
3. SEM has the ability to calculate the measurement error into the estimation of relationship between construct making the assessment of relationships between observed and unobserved variables more reliable and valid (Hair et al. 2006).

5.13.4 Composite Variables

Before advancing to estimation of second order CFA models and the structural model, composite variables were created to replace the measured items of the eighty six first order constructs (that represent the 11 higher order constructs). Given the model's complexity and the number of observed variables, an item parcelling technique was used to simplify the measurement structure, thus reducing the sample size required.

Bagozzi and Edwards (1998) provided a conceptual framework for representing constructs in which they presented methods of construct specification using confirmatory factor analytic methods. Arguing that issues related to construct depth and dimensionality should determine the specificity of the relationships; four alternative measurement models were described. The total disaggregation model is characterized by the treatment of all relevant items as indicators of the latent construct of interest. The partial disaggregation model and the partial aggregation model involve the combination (e.g., through summing or averaging) of items

into subsets, which, in turn, are treated as indicators of the latent construct. Finally, the combination of all items in a particular scale into a single indicator of the latent construct is termed the total aggregation model.

Although previous authors have not used the terminology suggested by Bagozzi and Edwards (1998), they have adopted strategies for creating composites (also referred to as testlets or item parcels) that can be described by this nomenclature (Mathieu & Farr 1991; Mathieu et al. 1992). Unlike the theoretically grounded models presented by Bagozzi and Edwards, however, the rationale for creating composites in practice has been driven by more practical concerns according to Landis et al (2000). Including all items as individual indicators in a full SEM analysis requires a substantially larger sample size as the number of indicators increases. Because many studies do not have the required sample sizes for these analyses, researchers often adopt composite formation techniques to reduce the number of estimated parameters in the tested model. Thus, to produce more stable estimates of structural relationships, researchers have sacrificed testing total disaggregation models in favour of partial disaggregation, partial aggregation, and total aggregation models.

As previously stated, the purpose in many applications of SEM is to describe both the structural and measurement relationships of a specified model. Unfortunately, to assess the fit of the full model, the number of cases must be significantly larger than the number of parameters estimated.

Although there is no single criterion with regard to the necessary sample size, several perspectives have been offered. Anderson and Gerbing (1988) stated that a minimum required sample size was 150, whereas Kelloway (1998) suggested that at least 200 observations represented an appropriate minimum. Alternatively, Bentler and Chou (1987) framed the issue in a slightly different way and suggested that the ratio of sample size to estimated parameters be between 5:1 and 10:1. In situations in which just a few items are used as indicators of each latent construct, the Bentler and Chou criterion can be met with a relatively modest sample size. However, as the number of items per construct increases, meeting this criterion becomes less likely given the number of cases typically found in psychological and organisational research.

An alternative perspective with regard to the sample size required for accurate model testing has been advocated by Marsh et al (1998). Based on simulation work, Marsh et al. argued

that traditional rules of thumb with regard to the ratio of sample size to estimated parameters might be inappropriate and that researchers should consider using more indicators than is evident in current practice.

Although the recommendations of Marsh et al (1998, p. 217) may be justified given their results, the authors themselves suggested that several features of the simulations might limit the generalizability of their conclusions. In a section specifically dealing with item parcels, Marsh et al. noted that their study evaluated only a very limited range of relevant variables. They further suggested that the use of nonnormal data, more complicated data structures, and various levels of misfit, among others, would greatly complicate studies of the effectiveness of item parcels but ‘might also show some advantages of item parcels over items—particularly when N is small’.

Based on the results of a simulation study by Marsh et al (1998), Hall et al (1999) suggest that small sample sizes not be the sole rationale for choosing to use item parcels. Marsh et al. found that with small sample sizes (less than 100), 4 or more indicators per factor were necessary to ensure proper solutions. Furthermore, their results consistently showed that it was better to have more indicators per construct, even though higher ratios of indicators per factors resulted in lower fit indices.

Higher ratios increased the likelihood of a proper solution and produced more accurate parameter estimates. Indeed, in the Marsh et al (1998) simulations, parcels did not offer any particular advantages over the use of individual items in terms of convergence to a proper solution or accurate parameter estimation, although item parcels performed comparably to items when the number of parcels was greater than 3 and sample size was greater than 100.

Because several alternative composite formation methods have been applied in the extant literature, Landis et al (2000) provided an empirical comparison of the most commonly applied methods and table 5.16 provides a summary of the methods covered in this review.

Table 5.16: Summary of Composite Formation Methods

Method	Description	Advantages	Disadvantage
Single Factor (SFA)	Pair off items with highest and lowest loadings as first composite based on a single factor solution: continue pairing until all items are exhausted	Most frequently reported method in the literature. Purpose is to distil original set of items to a reduced number of indicators that are empirically balanced measures of the constructs	Requires intermediate factor analysis. Using known relationships between items to make decisions about composites loads the dice in terms of developing strong measurement models, which in turn, could lead to overestimated structural models
Correlational (R)	Pair off items with highest intercorrelations as first composite: continue pairing until all items are exhausted	Purpose is to create composites that are empirically similar to each other	Requires intermediate correlational analysis. As above, could lead to overestimated structural models
Random (RAND)	Randomly assign items to composites	Does not require intermediate step of factor or correlational analysis. Easiest to implement	To the extent that items are not equivalent measures of the focal construct, this technique will most likely produce non-equivalent composites
Content (CONT)	Create composites based on rational groupings(s) of items	Employs a content-oriented strategy in which items are assigned to composites based on existing theory or rational judgement. Useful if many uni-dimensional scales include subsets of items measuring unique dimensions of a broader construct of interest.	May produce better ratios, but can result in models with appreciably poorer fit
Exploratory Factor Analysis (EFA)	Create composites based on results from exploratory factor analysis	Represents a data driven approach	No a priori decision is made about the number of composites. EFA lets the chips fall as they may in terms of creating composites
Empirically equivalent (EE)	Create composites with equal means, variances, and reliabilities	Not described in the extant literature. Similar to empirically data driven approach	If the measurement models become stronger as composites approach empirical equivalence, this technique would yield greatest improvement in overall model fit.

In selecting the most appropriate method of composite formation, it must be noted that Landis et al (2000) found that at the smallest sample sizes (100 and 300) there were few clear differences between most of the methods described above and that composites of almost all types accomplish their goals. That is, model fit is substantially improved when composites are used as compared to treating all indicators individually. In empirical tests, Landis et al (2000) found that the SFA, RAND, EE and R methods result in more acceptable ratios of sample sizes as well as producing better fitting models. Although the CONT and EFA models may produce better ratios, they result in models with appreciably poorer fit. The ultimate decision on composite formation for this study relates to conceptualisation of the constructs under investigation as outlined in chapter four. The single factor method was selected as the appropriate means of forming composite variables in this study. This method was selected to distil the original set of items in each of the constructs to a smaller number of items that were empirically balanced measures of the constructs under investigation. The advantages of this method were deemed to outweigh the disadvantages of using a factor analysis technique as both EFA and CFA have already been used in this analysis.

5.14 CONCLUSION

This chapter set out the research objectives and questions for this study before revealing the philosophical standpoint of the research. The study adopted a positivist viewpoint and as a result this determined the ontological and epistemological considerations. This was deemed appropriate to test the model and hypotheses developed in the previous chapter. In keeping with positivists view, a quantitative survey approach was selected, which led to the development of the survey instrument. Additional key considerations were selecting the sample group i.e the telecommunications industry and attaining a representative sample that is generalisable to the population under investigation. Before the positivist's work will be accepted as a valuable addition to the body of knowledge he/she must argue convincingly that the findings are valid and reliable. Reliability and validity checks were put in place and described within this chapter. Finally, the data analysis techniques, namely exploratory factor analysis, confirmatory factor analysis and structural equations modelling, used to produce the results in the next chapter, were described. Chapter six will therefore outline the results of the data analysis phase of this research.

CHAPTER SIX – FINDINGS

6.0 INTRODUCTION

This chapter presents the findings of this research. Once the data has been collected, the emphasis in the research process turns to the analysis of the data. The purpose of the data analysis stage is to obtain meaning from collected data (Churchill, 1999). A three step approach to data analysis was therefore adopted: (1) exploratory data analysis (2) confirmatory factor analysis and (3) structural equations modelling. A profile of the respondents is outlined initially to provide the context for the findings.

6.1 PROFILE OF THE RESPONDENTS

The key characteristics of the firms that participated in this study are reported in Table 6.1

Table 6.1: Profile of the Respondents

Characteristic	Number of Firms	Percentage of Firms
No. Of employees		
3-19	83	55
20-49	33	22
50-99	18	12
100-250	16	11
Exporting or operating in International Markets		
Yes	99	67
No	49	33
Dedicated International Business Unit		
Yes	52	36
No	93	64
Future plans to further develop international markets		
Yes	96	70
No	42	30
Importance of international markets to overall performance of the firm		
1. Not important at all	53	36
2	13	9
3	12	8
4	11	7

	5	8	6
	6	18	12
7. Very Important		35	24
Impact of network relations on international performance of your firm			
To a great extent		31	21
	2	22	15
	3	26	18
	4	13	9
	5	4	3
	6	15	10
Very Little		37	25
		<i>No. of Firms</i>	Mean
Years of experience in International markets		104	6 years
Number of International markets served		102	6 International markets
Number Of employees in International Business Unit		95	32employees

As previously mentioned, in the data collection process, particular attention was paid to the identification and selection of the most appropriate person in each firm to participate in the study. There appears to be a wide agreement in the literature that management should be considered a major force behind the initiation, development, sustenance and success of a firms export effort, because of the involvement and direct responsibility in the export decision (Miesenbock 1988). This is also the case for networking behaviour as discussed in chapter three. Thus, it was determined that in order to guarantee the reliability of the information provided, the key informant would be at the senior management level or have general management responsibility for international and networking operations. Table 6.2 illustrates the position held by the respondent in each firm.

Table 6.2: Position of Respondent

Position	Number of respondents	Percentage
CEO/MD/Owner	125	83
Operations Manager	3	2
Sales/Marketing Manager	9	6
Office Manager/PA/Secretary	3	2
Technical Manager	4	3
Finance Manager/CFO	5	3
Missing answer	1	1
Total	150	100

When companies were asked to identify the business category that best reflected their activities (see table 6.3 for full list), almost one third of firms (31%) ticked more than one category and included telecommunications as well as IT categories. 16% added additional business category descriptors in the ‘other, please specify’ section (see table 6.3 below), indicating that even within companies, the range of activities is converging.

Table 6.3: Activities carried out by Respondent Firms

Main Activity Categories	Additional Activities Carried out by Respondent Firms
<ul style="list-style-type: none"> • Computer Consultancy • Computer Services Miscellaneous • Computing and Bureau Services • Data Communications • Internet Services and Web Design • Telecommunications • Telephone Cost Management 	<ul style="list-style-type: none"> • Systems integration /Telephony Integration Services • Structured Cabling • Solutions provider • Computer Software/Warehouse software/ Financial Software Services /Software Development Services • Sales and maintenance • Multi channel TV provider /Cable TV. • Programme Management • Engineering Services • Translation and localisation • Brand Building and Design /Content provider/creator • Research • Online game publishing. • E Commerce • Provision of IT infrastructure • Data Centre • Cable Communications

According to network theorists, foreign market entry results from interactions between actors within the firm and the external network (Blankenburg 1995; Holm et al. 1996). As outlined in chapter four, the construct of strong and weak ties for this study were operationalised by means of the various foreign market entry modes as outlined in table 6.4 below.

Table 6.4: Forms of Inter-firm Collaboration Used

Extent of Usage	Strong / or weak tie	All the time						Never	
		%	%	%	%	%	%	%	Total
<i>Form of Interfirm collaboration</i>		1	2	3	4	5	6	7	Total
Direct importing	Weak	14	14	13	13	3	13	30	100
Indirect importing via agent	Weak	5	9	6	10	2	20	48	100
Indirect importing via distributor	Weak	7	4	7	12	4	15	51	100
Direct Exporting	Weak	19	19	9	10	3	8	31	100
Exporting via foreign intermediary	Weak	7	5	9	11	8	9	51	100
Marketing agreements	Weak	13	11	17	17	6	9	27	100
Patenting agreements	Weak	8	5	3	4	1	10	69	100
Informal partnering arrangements	Weak	13	19	22	19	5	8	14	100
Sales or manufacturing joint ventures	Strong	5	9	13	11	8	8	46	100

Equity Alliances	Strong	0	0	7	7	7	11	68	100
Non-equity R & D Alliances	Strong	8	3	4	8	4	7	66	100
Sales or Manufacturing subsidiary	Strong	14	5	6	6	1	8	60	100
Licensing	Strong	10	9	8	10	3	5	55	100
Franchising	Strong	2	0	1	2	2	4	89	100

It is clear from table 6.4 that companies use a variety of modes in dealing with their international markets. The extent which each mode is used also varies considerably. The literature indicates that companies have a portfolio of both strong and weak ties at their disposal, and this appears to be the case in this sample also. Based on the answering patterns the following is a general ranking of the entry modes from one to fourteen was derived from totalling the scores from 1 to 3, halving the score on 4th (mid point) and then totalling the scores from 5 to 7.

Table 6.5: Ranking of Foreign Marketing Entry Modes Used

Type of tie	Strength of tie	Ranking
Informal Partnering arrangements	Weak	1
Direct Exporting	Weak	2
Marketing Agreements	Weak	3
Direct Importing	Weak	4
Sales or manufacturing Joint Ventures	Strong	5
Licensing	Strong	6
Exporting Via a foreign Intermediary	Weak	7
Sales or manufacturing Subsidiary	Strong	8
Indirect Importing via agent	Weak	9
Indirect Importing via distributor	Weak	10
Non-Equity R & D Alliances	Strong	11
Patenting Agreements	Weak	12
Equity Alliances	Strong	13
Franchising	Strong	14

A number of companies also added examples of additional forms of inter firm collaborations in the other category, such as:

- Website provision.
- Revenue Sharing.
- Consortia for projects
- Sub contracting with other companies

In relation to relationships within businesses, firms were asked to rate the importance of relationships with other businesses to the overall performance of their firms. Figure 6.1 charts the responses to this question.

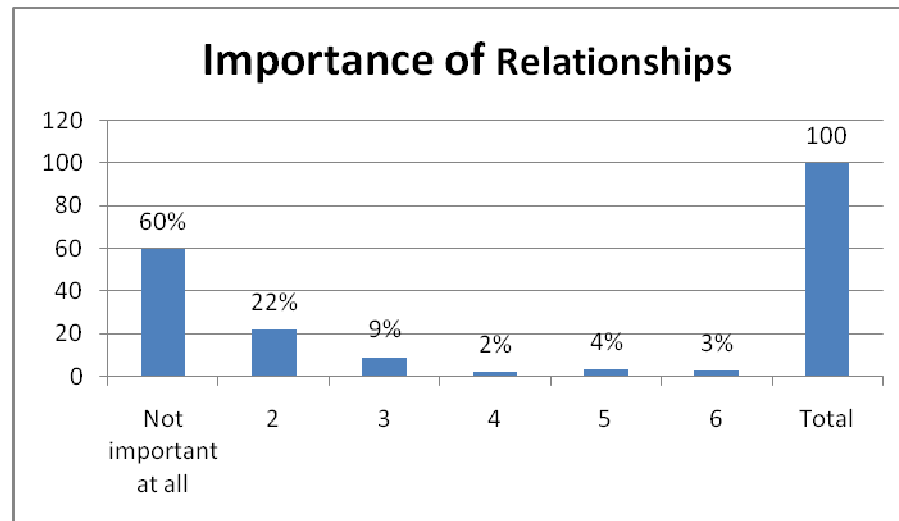


Figure 6.1: Importance of relationships with other business to performance

Table 6.6 below illustrates how these SMEs rated their performance relative to major competitors. This analysis was completed before the purification process (see table 6.10) was undertaken and the domestic market items dropped.

Table 6.6: Performance Dimensions Scoring

	Excellent %	2	3	4	5	6	Poor	Total
Domestic market share on your no. 1 product/service	13.27	7.14	7.14	11.22	21.43	25.51	14.29	100
International market share on your no. 1 product/service	22.45	16.33	6.12	15.3	17.35	14.29	8.16	100
Domestic sales growth over the past 3 years	11.23	7.14	10.2	10.2	22.45	20.41	18.37	100
International sales growth over the past 3 years	10.2	16.33	11.22	14.3	16.32	22.45	9.18	100
Average return on investment	3.03	4.04	10.1	16.16	32.32	24.25	10.1	100
Total Turnover	4.04	5.05	8.08	18.18	39.39	13.13	12.13	100
International Turnover	14.28	15.31	17.35	17.35	11.22	20.41	4.08	100
Total Pre- tax profit	5.05	11.11	9.09	29.29	26.26	12.12	7.08	100

International pre-tax profit	16.32	20.41	11.22	25.51	14.29	9.19	3.06	100
Customer satisfaction in international markets	4.08	3.06	5.1	13.27	19.39	46.93	8.17	100
Customer retention in international markets	4.08	5.1	5.1	11.22	21.43	38.78	14.29	100

Based on the answering patterns the following is a general ranking of satisfaction with the various dimensions from one to eleven (Table 6.7).

Table 6.7: Ranking of Performance Dimensions

Performance Dimension	Satisfaction Ranking
International pre-tax profit	<i>1</i>
International Turnover	<i>2</i>
International market share on your no. 1 product/service	<i>3</i>
International sales growth over the past 3 years	<i>4</i>
Total Pre- tax profit	<i>5</i>
Domestic market share on your no. 1 product/service	<i>6</i>
Domestic sales growth over the past 3 years	<i>7</i>
Total Turnover	<i>8</i>
Average return on investment	<i>9</i>
Customer retention in international markets	<i>10</i>
Customer satisfaction in international markets	<i>11</i>

Figure 6.2 presents firms' responses to a question asking them to rate the importance of international markets to overall performance. The following figure shows in percentage terms, that a slight majority of firms err on the not important side of the chart.

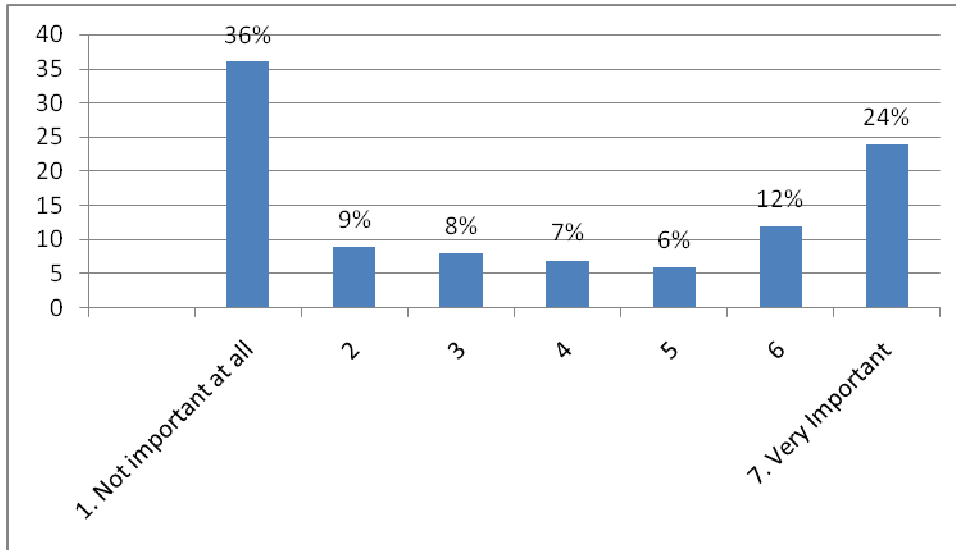


Figure 6.2: Importance of International Markets to Overall Performance

When asked to rate the impact of networks on their international performance, the chart in Figure 6.3 reveals a slightly different pattern of results, this time the slight majority were positive about the impact of networks on international performance.

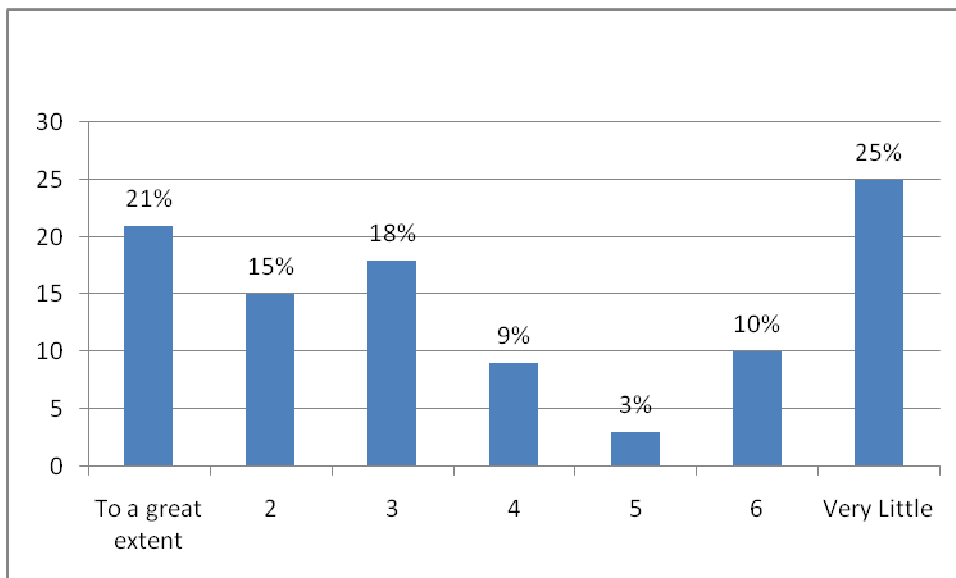


Figure 6.3: Impact of Networks on International Performance

6.2 EXPLORATORY FACTOR ANALYSIS

As mentioned in chapter five, a factor analysis was conducted to examine the underlying structure among the variables in the analysis. To identify the number of factors that emerged from the analysis, factors with eigenvalues greater than one were combined with information where ‘the elbow’ in the scree plot appeared (Iacobucci & Ostrom 1995).

Principal component analysis with quartimax rotation was conducted to assess the underlying structure for the 75 items in the network capability questionnaire. As shown in table 6.8, the initial data set produced a solution of 19 factors with eigenvalues greater than one, accounting for over 74% of the variance. Appendix 8 displays the items and the factor loadings for the rotated factors, with loadings less than .5 omitted to improve clarity.

Table 6.8- Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	18.686	24.915	24.915	11.100	14.800	14.800
2	4.475	5.966	30.881	5.116	6.822	21.622
3	4.098	5.464	36.345	4.224	5.632	27.254
4	3.276	4.368	40.713	4.163	5.551	32.805
5	2.970	3.959	44.672	3.676	4.901	37.706
6	2.565	3.420	48.092	3.127	4.170	41.876
7	2.387	3.183	51.275	3.119	4.158	46.034
8	2.098	2.798	54.072	2.741	3.655	49.689
9	1.888	2.518	56.590	2.538	3.385	53.074
10	1.772	2.362	58.953	1.704	2.271	55.345
11	1.564	2.086	61.038	1.678	2.237	57.582
12	1.456	1.941	62.980	1.676	2.235	59.818
13	1.381	1.841	64.820	1.659	2.212	62.029
14	1.353	1.804	66.624	1.648	2.197	64.226
15	1.260	1.680	68.305	1.608	2.144	66.370
16	1.188	1.584	69.888	1.561	2.081	68.452
17	1.159	1.546	71.434	1.461	1.947	70.399
18	1.087	1.449	72.883	1.460	1.947	72.346
19	1.030	1.374	74.257	1.433	1.911	74.257
20	.975	1.299	75.556			
21	.897	1.195	76.752			
22	.864	1.152	77.904			
23	.821	1.094	78.998			
24	.792	1.056	80.054			
25	.748	.997	81.051			
26	.724	.965	82.016			
27	.692	.923	82.939			

28	.653	.871	83.810		
29	.627	.836	84.646		
30	.609	.812	85.457		
31	.588	.784	86.241		
32	.540	.720	86.961		
33	.537	.716	87.677		
34	.509	.679	88.356		
35	.499	.665	89.022		
36	.475	.633	89.655		
37	.461	.615	90.270		
38	.435	.580	90.851		
39	.417	.555	91.406		
40	.387	.516	91.922		
41	.379	.506	92.428		
42	.359	.479	92.907		
43	.351	.469	93.376		
44	.334	.445	93.821		
45	.329	.439	94.260		
46	.304	.406	94.666		
47	.291	.388	95.054		
48	.276	.368	95.422		
49	.264	.351	95.773		
50	.237	.316	96.089		
51	.225	.301	96.390		
52	.216	.288	96.678		
53	.209	.278	96.956		
54	.198	.265	97.221		
55	.190	.254	97.475		
56	.181	.241	97.716		
57	.164	.219	97.935		
58	.157	.209	98.144		
59	.148	.197	98.342		
60	.142	.190	98.531		
61	.132	.176	98.707		
62	.120	.160	98.868		
63	.112	.149	99.017		
64	.102	.136	99.153		
65	.092	.123	99.276		
66	.082	.110	99.386		
67	.078	.104	99.490		
68	.074	.098	99.588		
69	.060	.079	99.668		
70	.057	.076	99.744		
71	.048	.064	99.808		
72	.045	.059	99.867		
73	.038	.051	99.918		
74	.034	.045	99.963		
75	.028	.037	100.000		

Extraction Method: Principal Component Analysis. Kaiser-Meyer-Olkin Measure of Sampling Adequacy. .790
Bartlett's Test of Sphericity = 7398.443 Sig. = .000

It is evident that a number of variables load heavily on factor 1, six out of the eight items on the a priori list for network initiation load on this factor. These items represent knowledge of networking partner firms (Weerawardena & Loxton 2006). Items from the network coordination category also load on this factor, items constituting network capability as operationalised by Walter et al (2006) and Weerawardena and Loxton (2006) as well as conflict management (Kale et al. 2000). Network learning variables such as learning practices (Bonner et al. 2005), internal communication practices and coordination of learning between partners (Weerawardena & Loxton 2006) also load on this factor. The final variable to load on factor 1 is synergy achieved through working together (Li & Lin 2006). Overall, factor 1 would appear to describe variables relating to operation of the network and would lend credence to the grouping of initiation, learning and co-ordination under this heading in the conceptual model as they are closely associated in the minds of managers.

The variables that load on factor 2, come predominantly from the human capital resources construct and were adapted from Hsu and Pereira's (2008) resources available for international expansion and Blomstermo's (2004) internationalisation experiential knowledge. Five out of the six items on that scale load on this factor.

Factor 3 is clearly derived from the variables under the information sharing heading and includes elements of Li and Lin's (2006) information sharing, Walter et al's (2001) network information potential and Yeoh's (2003) information accessibility. Six out of the seven items on that scale load on this factor.

Relational capability is the underlying theme in factor 4, which comprise relational embeddedness (Rindfleisch & Moorman 2001; Bonner et al. 2005), relational capital (Kale et al. 2000) and relational competence (Weerawardena & Loxton 2006). Five out of twelve items on that scale cluster together and load on factor 4.

Loading heavily on factor 5 are elements that constitute synergy sensitive resources and draws from Medlin's (2006) resource efficiency through ties, and Kale et al's (2000) partner fit in terms of complementarity and compatibility. Four out of the eight items on this scale load on factor 5. One item in this scale loads on factor 1 as previously mentioned.

Trust is the underlying dimension of factor 6, drawing from Sividas and Dwyer (2000), Wincent (2005) and Moran's (2005) interpersonal trust. Three out of the six items on this scale load on this factor.

Loading heavily on factor 7 is the knowledge codification element (Kale & Singh, 2007) of network learning. Three out of the eight scale items load on this factor, with the remainder loading on factor 1.

Factor 8, represents a number of inter-firm collaborations categorised as weak ties (four out of eight items), and 12 (informal partnership arrangements) also represent weak ties. Factor 15 (sales or manufacturing subsidiary) and factor 16 (licensing) represent strong ties), where as factor 10 is mixed, constituting one weak tie (patenting agreements) and one strong tie (franchising).

Two items from the relational capability scale load on factor 9 and represent Ritter and Gemünden's (2002) social skills in relation to networking.

Factors 13, 17 and 19 include items that were included as divergent and reverse scored in the questionnaire.

Factor 14 comprise the remaining two items in the network initiation scale and represent Bonner et al's (2005) network sensing and Ritter and Gemünden's (2002) relationship specific skills in relation to information gathering.

Leaving aside the later factors (10 – 18), the earlier 10 factors lend support for unpicking the ten constructs of the conceptual model from the extensive literature domains of networks and internationalisation (as outlined in chapter four) and classing them as a priori network capabilities. Over 55% of the total variation is attributable to these ten factors. Further validation of the factor analysis was carried out through split sample analysis revealing a similar 19 factor solution as described above. Therefore, given the outcome of the reliability, and validity assessment, the factor analysis and the theoretical and conceptual fit of the scale items, no changes will be made to the measurement model after this initial stage of exploratory factor analysis.

6.3 CONFIRMATORY FACTOR ANALYSIS

Table 6.9 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 1999). As far as the reliability is concerned, table 6.9 presents the results of the composite reliability (CR) and the average variance extracted (AVE). The values for the CR ranged from 0.65 to 0.91, which exceeds Bagozzi and Yi's (1988) recommended minimum level of 0.60. In terms of AVE, one of the ten constructs exceeded the 0.50 guideline and eight of the constructs are between 0.40 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 operationalising the construct and as Ping (2007) suggests - a new measure in a new model tested for the first time. In general, for all constructs, the indicators are considered sufficient and adequate in terms of how the measurement model is specified.

Table 6.9: CFA and Constructs Reliability

Construct and Items	Standardized Loadings	Regression Weights	<i>t</i> 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 & 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			
Initiation (CR = .87, AVE = .47)			
Inform ourselves of their respective markets	0.70	0.49	9.30
Inform ourselves of their products/services	0.52	0.39	8.02
Determine their strengths and weaknesses	0.79	0.62	11.10
Inform ourselves of their strategies and potentials	0.82	0.68	11.81

Judge in advance which possible partners we can pursue projects with	0.73	0.53	9.87
Seek opportunities to complement our capabilities and resources	0.57	0.47	8.61
Routinely gather information about prospective partners from various forums	0.52	0.27	5.46
Coordination (CR = .82, AVE = .44)			
We analyze what we would like and desire to achieve with which partner	0.55	0.31	5.35
We appoint coordinators who are responsible for the relationships with our partners	0.6	0.36	7.53
We discuss regularly with our partners how we can support each other in our success	0.78	0.60	10.54
We try to formalise our network relationships	0.78	0.61	10.74
The partners engage in joint problem solving while resolving conflicts	0.57	0.45	8.66
Great emphasis is placed on dealing with cultural obstacles while resolving conflicts	0.54	0.30	5.71
Learning (CR = .83, AVE- .40)			
We ensure that strategic decisions within our firm are informed by our networking activities	0.58	0.34	7.24
We value employee feedback for strengthening networking relations	0.56	0.31	6.86
We conduct periodic reviews to understand what we are doing	0.74	0.54	9.84
We periodically collect and analyze field experiences from our networks	0.71	0.50	9.29
We modify our network related procedures as we learn from experience	0.72	0.52	9.58

Resources such as network manuals are developed	0.53	0.40	8.06
Company managers attend training programmes on network management	0.47	0.22	5.57
The company provides opportunities for on-the-job network training	0.51	0.26	5.20
Group 3			
Human Capital Resources (CR = .91, AVE = .68)			
We have the necessary management expertise to assess foreign market potential	0.80	0.63	11.44
We have the expertise to manage our network relationships	0.55	0.30	7.01
We have the industry knowledge to pursue foreign markets	0.88	0.78	13.51
We have technical expertise to assess foreign market potential	0.85	0.72	12.66
We have international experience in doing business in new markets	0.85	0.73	12.7
We have international experience in cooperating with other firms	0.82	0.68	12.06
Synergy Sensitive Resources (CR = .83, AVE = .47)			
Network relationship allow efficient use of our firms resources	0.92	0.85	14.59
Network relationships lead to sound economic use of our firm	0.93	0.87	14.94
Network relationships allow effective use of our firms knowledge base	0.86	0.73	12.89
There is high Complementarity between the resources/capabilities	0.75	0.56	10.55
There is high similarity/overlap between the core capabilities of each partner	0.34	0.12	4.21

The management and operating styles of our network partners are compatible	0.43	0.19	5.40
We strive to achieve synergy through working together	0.55	0.43	8.76
Information Sharing (CR = .86, AVE = .48)			
We share Proprietary Business information	0.54	0.41	8.27
We exchange internal management information timely for each other	0.73	0.53	9.87
We share information about competitors and environments	0.55	0.42	8.40
We share internal decisions with the partners that might be affected	0.81	0.66	11.45
Information is available and accessible in a format that can be easily utilized	0.73	0.54	9.91
We have processes to systematically transfer knowledge	0.56	0.32	7.08
Information is often spontaneously exchanged	0.74	0.55	10.1
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

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 & Larcker).

During the CFA analysis purification process a number of items were excluded due to non-significant parameters, low *t* values, low factor loading scores or problematic absolute standard residual scores (Bentler & Chou 1987). Table 6.10 shows details of items dropped during this stage.

Table 6.10: Items removed during Purification Process

Item	Source	Construct
Have difficulty communicating our needs to others	Ritter & Gemünden (2002)	Relational Capability
Have a level of proficiency of the language of our foreign partners	Kenny & Sheikh (2000)	Relational Capability
Successfully terminate a partnership once it has exceeded its useful lifespan while maintaining good business relations	Loxton & Weerawardena (2006)	Relational Capability
Confidently handle negotiations with others	Ritter & Gemünden (2002)	Relational Capability
Put ourselves in another person's position	Walter, Auer & Ritter (2006)	Relational Capability
Easily understand other people	Ritter & Gemünden (2002)	Relational Capability
Their motives could be questioned	Wincent (2005)	Trust
Use organisations, apart from our existing technical partners to identify potential partners	Ritter & Gemünden (2002)	Initiate
The Domestic Market Share of your number 1 Product/Service	Added for this study	Performance
Your Domestic Sales Growth over the past 3 years	Added for this study	Performance
The Organisational cultures of our network partners are incompatible	Kale et al (2000)	Synergy Sensitive Resources

As a result of model complexity, the recommendations in the literature on CFA that scales should be assessed by examining smaller CFAs (Bentler & Chou 1987). Therefore the constructs were split into three groups. The first groups included the network characteristics constructs - strong ties, weak ties, relational capability and trust. The second group included the network operation constructs - initiation, coordination and learning. The third group comprised the network resources constructs - human capital resources, synergy sensitive resources and information sharing. This approach is well established in empirical research in

marketing (Moorman & Miner 1997). All three models are considered over identified as they have more unique covariance and variance terms than parameters to be estimated, which according to Hair et al (2006) is the desired state for CFA and SEM models in general.

The first 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=.7, 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 variables 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 indexes (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 (network characteristics 1A) was tested. Model fit statistics are shown in table 6.11.

Table 6.11: 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	<0.05	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
Model 2 (Network Operation): 22 items loading on three factors	509.28	201	<0.05	0.75	0.68	0.92	0.92	0.11	0.23
Model 2A (network operation): With 1 dropped item	508.43	186	0.00	0.74	0.67	0.91	0.90	0.11	0.22
Model 3 (Network Resources): 22 items loading on three factors.	354.9	178	<0.05	0.82	0.76	0.96	0.97	0.08	0.20
Model 3A (Network Resources): With 1 dropped item	354.9	178	0.00	0.82	0.76	0.96	0.97	0.08	0.23

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 6.11 indicated that there was an improvement also in goodness of fit statistics.

The second model tested (Network Operations) was one in which each item loaded on only 1 of 3 factors corresponding to its composite subscale. This hypothesized 3-factor model did not fit the data well from a statistical perspective ($\chi^2=509.28$, $df=201$, $P<.05$), however, when taking the other fit indices into account (GFI=.75, AGFI=.68, CFI=.92, NNFI.92 RMSEA=.11, and RMR=.23), the CFI and NNFI indicates a good fit.

Reviewing the summary statistics for this model revealed 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 to moderate (ranging from 0.22 to

0.68). Suggesting the manifest variables are moderately successful as measures of the latent variables 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. Modifications Indices were reviewed and necessary changes made. A second model (network operations 2A) was tested. Model fit statistics are shown in Table 6.11.

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 a marginal improvement in the fit of the model to the data ($\chi^2=508.43$, $df=186$, $P=0$). Inspection of the fit statistics (Table 6.11) indicated that two of the indices (NNFI and CFI) suggest a good fit.

The third model tested (Network resources) was one in which each item loaded on only 1 of 3 factors corresponding to its composite subscale. This hypothesized 3-factor model did not fit the data well from a statistical perspective ($\chi^2=354.9$, $df=178$, $P<.05$). However, three of the indices are within guideline limits (GFI=.82, AGFI=.76, CFI=.96, NNFI .97 RMSEA=.08, and RMR=.23) and suggest a good fit of the data.

Reviewing the summary statistics for this model revealed an absence of ‘improper’ or unreasonable estimates i.e., none of the error variances or latent variable variances are negative. All but one of the parameter estimates are significantly different to Zero (as indicated by t values greater than 1.96). 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 R^2 values are low to high (ranging from 0.12 to 0.87). Suggesting the manifest variables are reasonably successful as measures of the latent variables 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. Modifications Indices were reviewed and necessary changes made. A second model (network resources 3A) was tested. Model fit statistics are shown in Table 6.11.

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 no change in the fit of the model to the data ($\chi^2=354.9$, $df=178$, $P=0$).

A review of the modifications indices revealed some large values associated with error covariances among various items. Typically, the error terms for any pair of items are assumed to be uncorrelated. Despite common findings of correlated error variance terms, there remains considerable controversy in the CFA literature regarding their interpretability and cause. Bentler and Chou (1987) remarked that model specification that forces all error terms to be uncorrelated is rarely appropriate with real data. However, given that this study deals with cross sectional data collected by the same method, it becomes difficult to justify the incorporation of any correlated measurement errors. Diamantopoulos and Sigauw (2000) argue that allowing measurement errors to covary is not easy to defend. Bagozzi (1994) even suggests that correlated measurement errors detract from the theoretical elegance and empirical interpretability of the study.

6.3.2 Utility and Interpretation of Factor Analytic Approaches

The foregoing analyses illustrate the different types of information that may be obtained from the CFA and EFA approaches to assessing the factorial validity of data obtained with the networks capability survey instrument. Beginning with EFA, the scree plot of the eigenvalues suggested that the point of diminishing return was 19 factors; adding additional factors to the solution would not improve the ratio of factors to variance accounted for. However, the high proportion of variance in the data (74%) that was accounted for by the 19 factor solution suggests that the survey instrument was a relatively good measure of network capability. In EFA, the decision to group items together into subscales involves rules of thumb about cut-off values. A conservative cut-off value of .50 was used to group items into 10 factors.

Confirmatory factor analysis offered further, and more specific, insight into the factor structure of network capability by providing tests of significance on each factor loading and modification indexes that suggested where the structural equations that represent the factor structure could be improved. Eliminating the items as listed in table 6.3 improved the fit of the data to the 10 factor model.

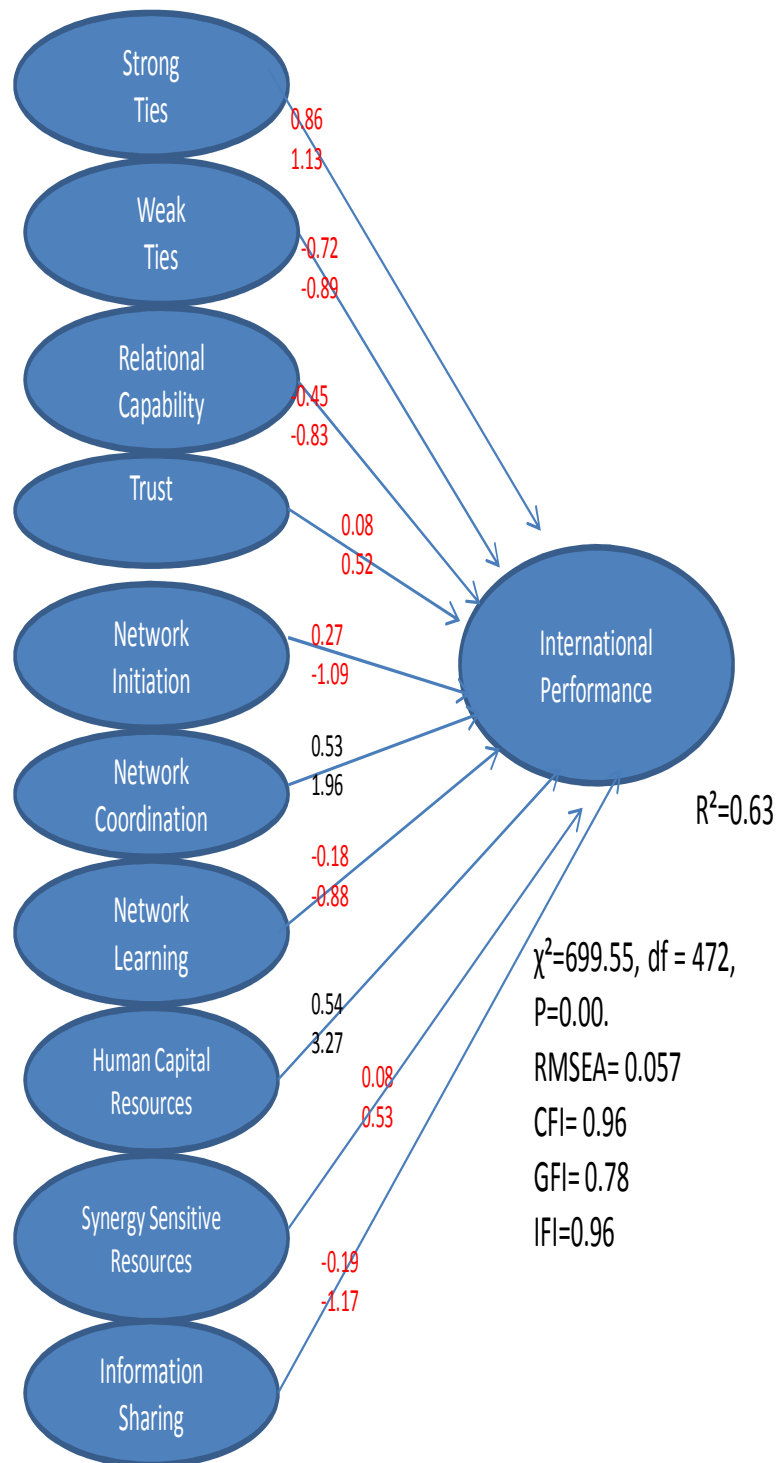
A number of items did not 'behave' as they should have (in either CFA or EFA) based on the 10-dimension theory of network capability. Some items did not load where they were hypothesized to in CFA. Some items cross-loaded in EFA on the relational capability, coordination and the information sharing factors. These findings raise the question of whether these theoretical dimensions of network capability are independent and simply

measured poorly by the survey instrument or whether these components could be replaced by a single, broader theoretical component as possibly indicated by factor one (network operations) loadings in the EFA.

In summary, as a number of the goodness of fit statistics for the measurement model were strong and given that the composition of the scales used is unique to this research, it was deemed appropriate to progress to the next stage of the analysis. It was concluded that the items employed were valid and reliable. Thus, having established a satisfactory measurement model, attention turned to the structural model, which represents the hypotheses under investigation.

6.4 STRUCTURAL EQUATIONS MODELLING: THE TESTING OF HYPOTHESES

As outlined in chapter 5, composite variable were created to simplify the measurement structure and deal with the small sample size in this research. The overall chi-square for the structural model exhibited in figure 6.1 is 699.55 with 472 degrees of freedom, and with three fit indices (CFI, IFI and RMSEA) above the guideline limits indicating a good fit between the hypothesized model and the observed data (see figure 6.4). Thus in general, the model fits the data, the next step, therefore is to examine the parameter estimate. Estimated parameters with an absolute t-value greater than 1.96 indicates a significance path at the $P < 0.05$ level, and those with an absolute t value over 2.576 represents a significance path at the $p < 0.01$ level. Red signifies a non-significant path and black signifies a significant path. The SEM results are now presented and will be discussed further in the next chapter. Table 6.12 provides a summary of all 11 hypotheses tests.



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

Figure 6.4: Final Model

Hypothesis 1a posits a positive relationship between strong ties and international performance.

H1A *o* - There is no positive relationship between strong ties and international performance

H1A *a* - There is a positive relationship between strong ties and international performance

The path coefficient between these two variables was found to be positive, but not significant at the 95% confidence level. Thus, the null hypothesis (H1A*o*) was not rejected. Similarly a positive relationship between weak ties and international performance was predicted by Hypothesis 1b.

H1B *o* - There is no positive relationship between weak ties and international performance

H1B *a* - There is a positive relationship between weak ties and international performance

In this instance, a negative and a non-significant relationship was revealed and as a result the null hypothesis (H1B*o*) was not rejected.

Hypothesis 1c predicted that the relationship with international performance is stronger in strong ties than in weak ties.

H1C *o* - The relationship with international performance is not stronger in strong ties than in weak ties.

H1C *a* - The relationship with international performance is stronger in strong ties than in weak ties.

In order to test this hypothesis an equality constraint was used to allow the paths to be equal and the full model was re-tested. Both models were compared using a Chi-square difference test and the constrained model was not significantly different, therefore it can be concluded that the relationship between strong ties and international performance is indeed stronger than

the relationship between weak ties and international performance, thereby rejecting the null hypothesis in favour of the alternative hypothesis 1Ca.

Hypothesis 2 proposed a positive relationship between relational capability and international performance.

H2 o- The lower the level of relational capability of a firm has within the network the lesser the impact on international performance.

H2 a- The higher the level of relational capability of a firm has within the network the greater the impact on international performance.

The results reveal a negative and a non-significant relationship between these two variables, which means the null hypothesis is not rejected.

Hypothesis 3 posits a positive relationship between trust and international performance.

H3 o - The lower the level of trust between partners in a network the lesser the impact on international performance.

H3 a - The higher the level of trust between partners in a network the greater the impact on international performance.

A positive relationship between these variables did emerge; however, it was not significant at the 95% confidence interval. Hence Hypothesis 3a is not accepted and the null hypothesis is not rejected.

The next group of hypotheses under the network operation heading proposes a positive relationship between network initiation, coordination, learning and international performance.

H4 o - The less effective the level of network initiation capability firm has, the lesser the effect on its international performance.

H4 a - The more effective the level of network initiation capability firm has, the greater the effect on its international performance.

H5 o - The lesser the firm's network coordination capability, the lesser the effect on international performance.

H5 a - The greater the firm's network coordination capability, the greater the effect on international performance.

H6 o- The less effective a firm is in network learning, the lesser the effect on international performance.

H6 a- The more effective a firm is in network learning, the greater the effect on international performance.

A positive but non-significant relationship was found between network initiation and international performance, thereby not rejecting the null hypothesis. A positive and a significant relationship at the 95 % confidence level were found between network coordination and international performance, thus accepting the alternative hypothesis 5a in favour of the null hypothesis. A negative and non-significant relationship was found between network learning and international performance, meaning Hypothesis 6a is not accepted in favour of the null hypothesis.

The last group of hypotheses under the network resources heading predicted a positive relationship between network human capital resources, synergy sensitive resources, information sharing and international performance.

H7 o- There is not a positive relationship between a firm's network human capital resources and international performance

H7 a- There is a positive relationship between a firm's network human capital resources and international performance

H8 o - The lower the level of synergy sensitive resources within a network, the lower the impact on international performance.

H8 a - The higher the level of synergy sensitive resources within a network, the higher the impact on international performance.

H9 o - The lesser the level of information sharing within the network, the lesser the impact on international performance.

H9 a - The greater the level of information sharing within the network, the greater the impact on international performance.

A positive and a significant relationship at the 99% confidence interval was found between human capital resources and international performance, resulting in Hypothesis 7 being accepted in favour of the null hypothesis. A positive, but a non-significant relationship was found between synergy sensitive resources and international performance, thus not rejecting the null hypothesis. The relationship between information sharing and international performance emerged as negative and non-significant resulting in the null hypothesis not rejected.

Regarding the antecedents to international performance in this study, the R^2 value of 0.63 was very respectable, indicating that a substantial proportion of variance of international performance was indeed predicted by the predictors considered.

The last step in the SEM process was to cross validate the model stability by splitting the sample and replicating the same model. As the sample size is small to begin with, the model was replicated firstly on 75% of the sample and then on 80% of the sample. The original model and the two validation models were compared using the single sample cross validation index (ECVI). According to Browne and Cudeck (1989), the alternative model that results in the smallest ECVI value should be the most stable in the population. The ECVI for the original sample was, 6.38, for the 75% sample the result was 6.94 and for the 80% sample the figure was 6.79. The confidence intervals for each model were also checked revealing the original model as the most stable at the population level.

Table 6.12: Assessment of Research Hypotheses

	Hypotheses	Expected Sign	Parameter Estimate	T Value	Assessment	
1a	<i>There is a positive relationship between strong ties and international performance</i>	+	0.86	1.13	+	NS
1b	<i>There is a positive relationship between weak ties and international performance</i>	+	-0.72	-0.89	-	NS
1c	<i>The relationship with international performance is stronger in strong ties than in weak ties.</i>	+	<i>N/A</i>	<i>N/A</i>	+	S*
2	<i>The higher the level of relational capability of a firm has within the network the greater the impact on international performance.</i>	+	-0.45	-0.83	-	NS
3	<i>The higher the level of trust between partners in a network the greater the impact on international performance.</i>	+	0.08	0.52	+	NS
4	<i>The more effective the level of network initiation capability firm has, the greater the effect on its international performance.</i>	+	0.27	-1.09	+	NS
5	<i>The greater the firm's network coordination capability, the greater the effect on international performance.</i>	+	0.53	1.96**	+	S**
6	<i>The more effective a firm is in network learning, the greater the effect on international performance.</i>	+	-0.18	-0.88	-	NS
7	<i>There is a positive relationship between a firm's network human capital resources and international performance</i>	+	0.54	3.27*	+	S*
8	<i>The higher the level of synergy sensitive resources within a network, the higher the impact on international performance.</i>	+	0.08	0.53	+	NS
9	<i>The greater the level of information sharing within the network, the greater the impact on international performance.</i>	+	-0.19	-1.17	-	NS

Note: + indicates a positive relationship; - indicates a negative relationship; * $p < 0.01$; ** $P < 0.05$; S indicates hypothesis supported; NS indicates a non-significant relationship

6.5 CONCLUSION

This chapter presented the results of the statistical analysis performed in order to test the hypotheses developed in chapter four. Table 6.13 summarises the results of the hypothesis testing. Overall, three hypotheses were supported (H1c, H5 and H7), four hypotheses were positive, but non-significant (H1a, H3, H4, H8), four hypotheses were negative and non-significant (H1b, H2, H6, H9). Overall, eleven 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. Similarly, network coordination and human capital resources were found to be positively and significantly associated with international performance. Strong ties, trust, network initiation and synergy sensitive resources were all positively associated with international performance, but non-significant. Weak ties, relational capability, network learning and information sharing were negatively associated with international performance. These findings are discussed in the following chapter.

CHAPTER SEVEN - DISCUSSION

7.0 INTRODUCTION

In this chapter, the findings presented in chapter six are discussed in more detail. Firstly, it is necessary to examine the research objective and discuss the extent to which the finding from chapter six addresses these objectives. A summary of the main findings is outlined in table 7.1. The findings will be discussed in terms of: network characteristics (H1 – H3), network operation (H4 – H6) and network resources (H7 – H 9). The findings will also be discussed from an SME perspective, an international performance perspective and in the context of the telecommunications industry.

7.1 RESEARCH OBJECTIVES AND QUESTIONS

The research question for this study was to investigate how network theory contributes to our understanding of the internationalisation process of SMEs and to measure the effect of network capability on performance in international trade. The specific focus was on performance in international trade as opposed to the actual process of internationalisation. The dependent variable therefore was performance as measured through conventional means such as market, financial and customer satisfaction levels of performance. The independent variables included factors that make up a firm's network capability and comprise network characteristics, network operation and network resources.

7.1.1 Objectives of the Research

The specific objectives of this research were:

- ◆ To offer new insights into the international market development activities through the application of a network theory perspective;

- ◆ To gain a deeper understanding of networking capability;
- ◆ To determine the impact of networking capability on the international performance of SMEs;

7.2 INTERNATIONAL MARKET DEVELOPMENT AND THE NETWORK PERSPECTIVE.

The first research objective relates to providing new insights into the international market development activities through the application of a network perspective. The international business literature was reviewed to ascertain the development of thought, the research gaps and the shortcomings. It was clear from this review that the network perspective was a useful and popular theoretical domain used to understand the international activities, particularly of small resource constrained firms. This study focused on performance and market entry modes in international business, and in the networks literature, the focus was on conceptualising networking capability as a dynamic capability. Specifically, this research provides an improved understanding of networking capability and international performance. While the important role of business networks in business is common wisdom, caution is given against the tendency to interpret networks as universally beneficial to firms' business development and performance outcomes. This research provides explicit and vivid evidence of the possible gap between the commonly presumed and actual effects of networks. Thereby, addressing the initial research objective for this study.

The second research objective was to gain a deeper understanding of network capability. The conceptualisation stage of this research was documented in chapter 4, where networking capability was conceptualised as a dynamic capability. Consistent with this literature, this study views capabilities in terms of intricate configurations of resources and operating routines. A central issue in this literature is the relationship between capabilities and performance. Hence, networking capability for this study comprises network characteristics, network operation and network resources. Network characteristics include strong and weak ties (operationalised as foreign market entry mode), relational capability and trust. Network operation comprises network initiation, network coordination and network learning, and network resources include human capital resources, synergy sensitive resources and information sharing.

The third research objective was to determine the impact of networking capability on the international performance of SMEs. This was done through testing the nine research hypotheses developed in chapter 4 and using the research methods and analysis outlined in chapter 5. A summary of the main findings are outlined in table 7.1, which shows the relationship between the various networking capability constructs used in this study and international performance. A detailed discussion on these results is contained in the preceding sections.

Table 7.1: Summary of Main Findings

	Hypotheses	Assessment	
1A	<i>There is a positive relationship between strong ties and international performance</i>	+	NS
1B	<i>There is a positive relationship between weak ties and international performance</i>	-	NS
1C	<i>The relationship with international performance is stronger in strong ties than in weak ties.</i>	+	S*
2	<i>The higher the level of relational capability of a firm has within the network the greater the impact on international performance.</i>	-	NS
3	<i>The higher the level of trust between partners in a network the greater the impact on international performance.</i>	+	NS
4	<i>The more effective the level of network initiation capability firm has, the greater the effect on its international performance.</i>	+	NS
5	<i>The greater the firm's network coordination capability, the greater the effect on international performance.</i>	+	S**
6	<i>The more effective a firm is in network learning, the greater the effect on international performance.</i>	-	NS
7	<i>There is a positive relationship between a firm's network human capital resources and international performance</i>	+	S*
8	<i>The higher the level of synergy sensitive resources within a network, the higher the impact on international performance.</i>	+	NS
9	<i>The greater the level of information sharing within the network, the greater the impact on international performance.</i>	-	NS

Note: + indicates a positive relationship; - indicates a negative relationship; * $p < 0.01$; ** $P < 0.05$; S indicates hypothesis supported; NS indicates a non-significant relationship

7.3 NETWORK CHARACTERISTICS AND INTERNATIONAL PERFORMANCE

Hypothesis 1A 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 1a was not supported in this research.

Similarly a positive relationship between weak ties and international performance was predicted by Hypothesis 1B. In this instance, a negative and a non-significant relationship was revealed and as a result hypothesis 1b was not supported. Hypothesis 1C predicted that the relationship with international performance is stronger in strong ties than in weak ties. The results in the previous chapter indicate that the relationship between strong ties and international performance is indeed stronger than the relationship between weak ties and international performance, thereby accepting Hypothesis 1C.

The finding that there is a negative relationship between weak ties and international performance may have implications for researchers concerned with the role of structure versus motivation among social actors. In his initial conceptualization, Granovetter (1973, p.1371) suggests that weak ties provide key information benefits because of their structural network characteristics (such as, low degree of knowledge redundancy). Therefore, he argued for “the primary structure over motivation” in terms of the relationship and information flow. Since then the issue of information related value of structure versus motivation (Frenzen & Nakamoto 1993) has been widely debated by strength of ties researchers. Rindfleisch and Moorman (2001) provided additional evidence that the structural aspects of inter-organisational ties are 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 relation 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). In some cases, the quality of relationships and the conflict within them can be problematic. According to Walker et al (1997), in a 'closed network', members are connected to one another, have access to social capital, and have norms that govern the code of conduct. In an 'open network', however, firms have no access to social capital, they are not connected, and the norms and information about behaviour are disseminated slowly. In such a situation, it is difficult to keep opportunistic behaviour in check (Chetty & Agndal 2007).

Similar to the support for hypothesis 1C, 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 relationship between performance and entry mode of multinationals by Li and Guisinger (1991), Simmonds (1990) and Woodcock et al (1994).

On the choice of entry mode for high technology firms, Burgel and Murray (2000) found that a high degree of required product/service customization leads to the exclusion of intermediaries during the international sales process. Products that require a high level of client-specific adaptation are more likely to be sold directly by the manufacturer. They argued that this is the case because the expertise and tacit knowledge required to configure a product according to customers' detailed specifications are more likely to reside with the manufacturer than with the intermediary. Contrary to this, they found that start-ups whose products require extensive pre- and after-sales support are less likely to sell through distributors and that the level of required support did not affect the choice of entry mode significantly.

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 & Blomstermo 2003; Moen et al. 2004; Crick & Spence

2005; Chetty & 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.

7.3.1 Relational Capability

Hypothesis 2 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 2 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, as much of the extant literature on networking tends to emphasise only positive effects (Sullivan-Mort & Weerawardena 2006).

Networks can be as Tang (2009) described a 'two-edge sword' that can facilitate as well as inhibit the development of firms (Portres 1998; Chetty & 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; Portres 1998; Gulati et al. 2000; Adler & Kwon 2002; Gadde et al. 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 & Johnsen 1999; Mc Auley 1999; Meyer & 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), Tang (2009) believes they need to review and adapt 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”

While strategy scholars have primarily applied various capabilities-based arguments to explain sustained performance differences across firms, variation in capabilities can also be the basis for strategic behaviour (Kraatz & Zajac 2001). In this instance, Gulati's (1999) concern is not with technological or material resource-based capabilities but with organisational capabilities that enable firms to form alliances with greater ease. Alliances are complex organisational arrangements that can require multiple levels of internal approval, significant search in identifying partners, detailed assessments for ratifying contracts, and considerable management attention to sustain the partnership (Gulati et al. 1994; Ring & Van de Ven 1994; Doz 1996).

Rowley et al (2000) argued that strong ties are less advantageous when the firm is situated in a dense network of alliances and that with respect to firm performance it is important to consider relational and structural embeddedness factors simultaneously. Secondly, they proposed that the degree of uncertainty and required rate of innovation in the environment influence the appropriate network configurations. 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.

Hite (2005) suggested that evolution of relationally embedded ties may present several potential disadvantages (Granovetter 1985; Coleman 1988; Dubini & Aldrich 1991; Portes & Sensenbrenner 1993; Hesterle et al. 1998). First, such evolution can contribute to over-embeddedness (Uzzi 1997) which occurs as the firm experiences an overabundance of embedded ties. If the firm assumes all network ties need full relational embeddedness, it may allocate too many resources to tie development, experience excess constraints on actions, and be inhibited from successful early growth (Uzzi 1996; Hite & Hesterly 2001). Second, this evolution requires emerging firms to constantly re-assess the fit between type of relational embeddedness and governance structures. However, this imbalance among social components is further aggravated by the evolution of relational embeddedness, which implies that the underlying social relationship is constantly changing. Under conditions of potentially evolving relational embeddedness, governance mechanisms need to be continually monitored and adjusted, as they may shift or evolve out of alignment; evolving networks may necessitate changes in governance strategies. Thus network challenges at the dyadic level may not necessarily result from too much social relationship but rather from the constantly changing nature of the social relationship and the potential lack of governance fit. Fitting governance to the type of relational embeddedness may place the emerging firm in a better position to access both the cost minimizing and value maximizing aspects of relational embeddedness (Madhok 1997). This model specifies conditions under which networks can contribute to emerging firm effectiveness (Dubini & Aldrich 1991). Emerging firms must be aware of the potential for over-embeddedness, must not assume that all relationally embedded ties are alike, must constantly assess relational embeddedness, and may need to adapt governance measures to fit both the transactional and relational characteristics of network ties (Williamson 1985; Hite 2003).

7.1.2 Trust

Hypothesis 3 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 3 is not supported. This finding is consistent with Aulakh et al (1996) and Wincent (2005) who did not find a significant relationship 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 & Currall 1997; Sarkar et al. 2001; Fryxell et al. 2002), and still another (Lyles et al. 1999) reports a negative relationship 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 relationship learning on performance, leading to less information exchange, fewer meetings, less evaluation of relationship, 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 & 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. Fang et al (2008) recommend considering how, in dynamic environments, the negative effects of intra-entity trust, and how those effects may be exacerbated by trust at other levels, as well as by governance mechanisms.

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 & 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 relationship 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 relationship 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 relationship 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.

7.4 NETWORK OPERATION

7.4.1 Initiation

A positive but non-significant relationship was found between network initiation and international performance, thereby not supporting hypothesis 4. Drawing on the growth stages theory of network development outlined in Chapter Three, the initiation construct could be seen as being as part of the '*searching process*' as described by Batonda and Perry (2003, p. 1460). The activities in this initial stage of the network development process are seen as phase one by a range of authors (Dwyer et al. 1987; Ford 1980, Larson 1992; Kanter 1994; Heide 1994; Wilson 1995). Looking through this lens, may lend some explanation to the lack of support for the relationship between network initiation and international performance. If network initiation is seen as a stage in the process as distinct from an element of overall networking capability, then subsequent factors or variables will have a bearing on the international performance relationship. Also, Batonda and Perry (2003) point out that the outcome of the stages model (including phase one) seem to be influenced by the interaction

between economic actors and individuals in the network as well as external persons such as the network broker. It is also evident that sometimes foreign market opportunities are discovered completely by chance, with no clear initiating role attributable to the buyer, seller, or third party (Ellis 2000). Furthermore, Ellis (2000) contends that it is appropriate to treat the trade fair (which is referred to in this construct in this study) as a special kind of initiation scenario. Empirical support for this assertion is provided by Reid (1983, p. 154) who, based on his study of information search strategies used by exporters, found participation in international trade-fairs to be 'more likely than any other information search activity to be of use to the export decision-maker.'

As one of the items in the initiation scale referred to third party support organisations such as government organisations, it was interesting to note a similar finding from Ellis (2000). He found that formal search activities based on objective data collected by professional or government agencies were virtually never used to identify opportunities abroad and consequently have had little bearing on the foreign market entry behaviour exhibited by the toy-makers in his study. However, more recent research on high tech firms, found that the external government networks were the most significant factor enhancing export performance, irrespective of the export destinations (Ujjal 2009).

Market and network sensing was included in the initiation construct in this study and interestingly Berghman et al (2006) contended that traditional market sensing capability is not enough, as this simply feeds the company with information, the real value lies in how this information is assimilated and transformed within the firm. Overall their findings on a study of marketing orientation, suggested that the simultaneous and gradual development of marketing knowledge absorptive capacity, organisational competence and network competence is necessary.

7.4.2 Coordination

A positive and a significant relationship at the 95 % confidence level were found between network coordination and international performance, thus supporting hypothesis 5. The finding that network coordination is positively related to international performance in this study is consistent with previous research findings on the role of the alliance or coordination function. This is also consistent with Katsikeas et al (2009), who recognize that international exchange is most productive when the resources and capabilities of trading partners are coordinated and fully matched to the work requirements inherent in importing products to

foreign markets (Crowston 1997). Yet achieving optimal coordination is particularly difficult in international transactions, as the resources required for successful exchange are scattered across the employee-actors of the export and import firms (Zaheer et al. 1998).

Fink et al (2008) contended that international cooperation's of SMEs require this kind of behavioural coordination for their long-term and highly complex transactions. The ability of an enterprise to deal with behavioural uncertainty within cooperation and to resourcefully keep in check the danger of opportunistic behaviour on the part of the cooperation partner influences the utility it derives from the cooperation relationship (Jarillo 1988).

Henderson and Cockburn (1994) demonstrated the usefulness of higher-order organizing mechanisms to coordinate R&D know-how and activities within pharmaceutical firms. They refer to such mechanisms as the firm's architectural competence with respect to R&D, and they operationalise it in terms of the extent to which research activities are coordinated as a seamless whole and managed centrally by a focal individual or team. They find that having a team or individual that centrally coordinates the firm's R&D know-how and activity leads to significant improvements in R&D productivity. Similarly, Clark and Fujimoto (1991) highlighted the positive impact of centrally coordinating various groups and activities during the development of new product designs in the automotive industry. Their research shows that having such a mechanism ('heavyweight teams') leads to a significant reduction in the time and cost associated with developing new product designs. Finally, Dyer and Nobeoka (2000) examined the issue of how Toyota and its suppliers learn faster (show greater productivity improvements) than competitors. They claim that one important factor in explaining Toyota's relative learning capability is that Toyota has created a separate organisational unit that has been assigned the responsibility to accumulate, store, integrate, and diffuse production knowledge. Toyota's 'Operations Management Consulting Division' represents a mechanism designed to centrally coordinate and share valuable production knowledge throughout Toyota's network. Harbison and Pekar, (1998); Mitchell, (2000); and Reuer, (2000) and Kale et al, (2002), all believed that centralized coordination of this kind is becoming equally important in the alliance context.

This research suggests that one important way that organisations can capture, integrate, and disseminate alliance-management know-how is through the creation of a separate, dedicated unit charged with the responsibility to capture prior experience. Kale et al (2002) referred to

this as a dedicated alliance function, for example, firms such as Hewlett Packard, Eli Lilly, and Parke- Davis have appointed a 'Vice President or Director of Strategic Alliances' with his/her own staff and resources. This dedicated function coordinates all alliance-related activity within the firm and can enhance the firm's ability to generate high returns from alliances or networks in a number of ways.

7.4.3 Learning

A negative and non-significant relationship was found between network learning and international performance, meaning hypothesis 6 is not supported. This finding is consistent with those of Bonner et al (2005) and one plausible explanation for this finding might be that a firm's network learning activities go largely unnoticed by managers in other firms because they are more internal and implicit and, as a result, have little influence on its perceived position with a relationship network. To the extent that the network learning activities are internal and unnoticeable by managers, they may not be acknowledged as an antecedent of the firm's own networking capability by managers.

Furthermore, Nahapiet and Ghoshal (1998) argued that some aspects of social capital can hinder interaction and thus constrain rather than enhance learning. They argue that though social norms and identity have a positive effect on group performance, these attributes can also hinder the group's receptiveness to new information and to seek other methods of doing things.

Theory (for instance Granovetter 1973; Argyris & Schön 1978; Giddens 1994) and practice (Floren & Tell 2004) support the notion that trust is the major prerequisite for learning in groups. Floren and Tell (2004) focused on the emergent nature of learning in groups or networks, and in their research trust has proven to be an essential element supporting the learning process in networks. As the relationship between trust and international performance was not supported in this study, given this argument that trust is a prerequisite to learning, it may come as no surprise that the relationship between network learning and international performance is thus not supported.

Similarly, Kale et al (2000) hypothesised that the greater the relational capital that exists between alliance/network partners, the greater will be the degree of learning achieved. Again, this study did not find support for the relationship between relational capability and international performance. Kale et al (2001, p. 465) shed further light on the learning concept

by saying that – “Many companies, including those with high alliance experience, fail to capitalize on the lessons associated with their prior experience”. However, their research would indicate that companies (large in the case of their specific study) who are strong on coordinating networking activities do in fact engage in some learning effort, which is not the case in the findings of this study focusing on SMEs.

Interestingly, Floren and Tell (2004) found that the prerequisites for learning changed with time in the networks. In the beginning of the collaborations, the networks were primarily oriented towards specified goals of the network. As time passed, trust increased between network members. In the wake of the inter-personal trust, a reciprocal and transparent milieu developed, which in turn established prerequisites for a receptive and confronting capacity between the managers, which led to higher-level learning. As this study is cross sectional in nature, the effect of changes in networking capability over time was not captured, but it is indeed a fruitful avenue for future research.

Anand and Khana (2000) on the other hand, explored differences in learning effects on contract specific alliances and found evidence of large learning effects in managing joint ventures, but no such evidence for licensing contracts. The effects of learning on value creation are strongest for research joint ventures, and weakest for marketing joint ventures. These results are consistent with the view that learning effects are more important in situations characterized by greater contractual ambiguity.

Additional interesting insights could be gained from the results of the three hypotheses under the network operations heading. Firstly, a positive but non-significant relationship between network initiation and international performance, a positive and a significant relationship network coordination and international performance and a negative and non-significant relationship between network learning and international performance. This range of findings could support Bonner et al's (2005) similar notion that performing, simultaneously, elements of network initiation, coordination and learning at high levels tends to strain the competencies and resources of an organisation. Which is consistent with the literature on resource constrained small businesses. Therefore, managers have to carefully decide which strategic direction they should pursue. Should the firm create value for partners by being well informed about the breadth of opportunities, or should it strive to become an excellent coordinator of activities across multiple networks?

7.5 NETWORK RESOURCES AND INTERNATIONAL PERFORMANCE

7.5.1 Human Capital Resources

The conceptual model in this study postulated a positive relationship between human capital resources and international performance. 'Network human capital resources' has a statistically significant and positive relationship with international performance, thereby supporting hypothesis 7. This finding is consistent with previous empirical studies, which acknowledge that human capital of the entrepreneur as critical in terms of firm growth and profitability (Bates 1985; Bruderl et al. 1992; Cooper et al. 1994; Lee et al. 2001) and with international intensity of the firm (Bernardino & Jones 2008). Entrepreneurs, specifically in high tech firms may have a sense of achievement with high motivation, high levels of skills and resources and possessing a network of personal contacts, both national and international, based on his/her own previous experience (Cooper et al. 1994; Lee et al. 2001). Very often this network of contacts represents firm's initial customer base (Smith & Fleck 1987). Entrepreneurs of HTSMEs with higher human capital are able to detect profitable market niches both domestically and internationally not yet uncovered by other competitors (Bates 1985). Furthermore, they might possess the knowledge on initiating and running a successful business through the assessment of all the relevant information and opportunities, in both the domestic and international arena (Bernardino & Jones 2008).

Research also shows, however, that firms are quite heterogeneous with respect to their alliance/networking capabilities and that this heterogeneity is linked both to the amount of prior alliance experience they have had (Anand & Khanna 2000) and how they learn and leverage from that experience (Kale & Singh 1999). It has been observed that the prior alliance experience of the firm is important in being able to build or utilize appropriate routines and mechanisms to build relational capital and manage conflicts.

Crick and Spence (2005) in their research on HTSMEs found that management teams built a strong resource base that manifested itself in several ways to assist further international growth. Primarily, a wealth of experience was built up enabling managers to better identify and exploit overseas opportunities as a result of developing core managerial competencies. For example, a whole host of managerial skills were developed ranging from research and planning issues in a formal sense, through to those in an informal sense that managers claimed enabled them to develop a 'gut feel' about specific situations. Furthermore, linking

in with the networking view, contacts were developed and utilised as an important resource. These ranged from customer contacts through to advisers that helped on financing and other functional roles. Crick and Spence (2005) also found decisions by some firms to enter markets using more committed forms of market entry than the exporting route e.g. joint ventures and subsidiaries. Financial and human resources were therefore fully utilised by these firms in order to exploit markets further.

7.5.2 Synergy Sensitive Resources

Hypothesis 8 predicted a positive relationship between synergy sensitive resources and international performance. The findings reveal a positive relationship between these two variables. However, this relationship is not significant (t value <1.96). Literature in this area suggests that the more complex and novel the technologies are, the greater the need for partnering orientation and the matching of working cultures in terms of producing future value (Child & Faulkner 1998). Möller and Törrönen (2003) stressed that firms in a network must have complementary technological capabilities. If their capability profiles are too similar, they have fewer opportunities for new knowledge creation than if their profiles are more specialised. On the other hand, they must have sufficient 'common ground', or joint knowledge, that facilitates mutual learning processes. Companies with widely different technologies and business systems have great difficulties in trying to coproduce value. When the value production requires a combination of knowledge and capabilities that have been appropriated by several actors, it has been found to result in nets of collaborating firms, as Powell et al. (1996) noticed in the field of commercial biotechnology. Research by Wang and Zajac (2007) revealed that the levels of resource similarity of two firms have an impact on the choice of governance form between acquisition and alliance. Considering the level of merger and acquisition activity in the sector (see figure 1.2, chapter 1), it may mean that companies are opting to lock in these complimentary resources through part ownership structures as opposed to informal networking arrangements.

Rothaermel and Boecker (2008) argued that firm age of the new technology partner moderates the impact of complementarities in a negative fashion, while it moderates the impact of similarities in a positive fashion. Their results provide support for the notion that the age of the new technology firm moderates the relationship between complementarities and alliance formation in a negative fashion. Overall, their results indicate that the effects of

complementarities and similarities on alliance formation appear to be contingent upon certain firm characteristics of the new technology venture.

Somewhat surprisingly, Rothaermal and Boecker (2008) found that the second measure employed to proxy complementarities—non-overlapping niches—was not significant in predicting alliance formation. One explanation for why prior research found significance for non-overlapping niches predicting alliance formation (Gulati 1995; Chung et al. 2000) could be that the prior work focused on horizontal alliances between established firms in more mature industries (for example, new materials, industrial automation, automotive products, and investment banking), while Rothaermal and Boecker (2008) focused on vertical alliances between new and old technology firms in an emerging science-driven industry. Another reason might be that proxying complementarities based on non-overlapping niches is not a suitable measure, as pointed out by Gimeno (2004). Firms can occupy non-overlapping niches without being complementary to one another. This is the case when firms occupy dissimilar niches that are not complementary. Thus, while occupying non-overlapping niches might be a necessary condition for complementarity, it is not sufficient. Rothaermal and Boecker (2008) contend that in newly emerging high-tech industries the level of (vertical) strategic interdependence between potential alliance partners can be effectively captured by measuring each partner's capability in complementary value chain activities.

Lavie (2007) revealed that not all types of network resources create value. The relational rents that firms can derive from their network resources depend on the complementary value of these resources from the perspective of the focal firm (Dyer & Singh 1998). Similar alliance portfolios may contribute differently to value creation based on the extent to which partners' resources are complementary.

Finally, Hite (2005) argued that resource acquisition benefits may vary depending on the type and evolution of relationally embedded ties. The greater the relational embeddedness, the more likely the tie will engage in relational exchange, rather than being limited to market exchange (Williamson 1985; Zaheer & Venkataraman 1995). As relational capability (which captures relational embeddedness) is not found to impact on international performance, this may shed some light as to a possible reason why a relationship was not supported between synergy sensitive resources and international performance.

7.5.3 Information Sharing

Hypothesis 9 predicted a positive relationship between information sharing and international performance. The findings revealed a negative and a statistically insignificant relationship between these two variables. Therefore, Hypothesis 9 is not supported in this research. This finding is not completely surprising given that it is acknowledged that information/knowledge is difficult to transfer and communicate across the boundaries of the firm (Li & Lin 2006). Furthermore, it is suggested that firms often lack channels for sharing rich or reliable information with one another because they are unwilling to share such information in the first instance (Abrahamson & Rosenkopf 1993). Also, given that firms in this research do not emphasize the use of networks to achieve synergy or complementarity resources— it could be argued that there is no need to share information between firms to any large extent. Berghman et al (2006) found that facilitators for new value creation are network information sharing and network innovation stimulus, which they feel may be harder to manage than other organisational conditions. Li and Lin (2006) found that the main effects of information sharing and asset specificity do not significantly affect global logistics competence specifically in Chinese supply networks.

Lin and Lawton (2006) found that internationalisation knowledge, experience sharing, assumed by the network approach to the main functions of inter-firm networks, was not sufficiently evident in their research in Taiwanese SMEs. These firms did not obtain sufficient local knowledge (social, economic, cultural and regulatory) before they internationalised. Such an unprepared state may be the result of resource constraints, the unavailability of information channels and insufficient time to prepare for internationalisation. Dyer and Singh (1998) and Dyer and Nobeoka (2000) have also argued that the existence of trust and relational capital between partners encourages firms to set up idiosyncratic knowledge-sharing routines to further facilitate the learning of specified and agreed-upon information and know-how between them.

Resources that are not internal to the firm may be purchased on the market (Chetty & Wilson, 2003). However, Hart et al (1995) concluded from their empirical study that some resources, especially industry-specific knowledge and reputation resources are not readily tradable or accessible in the marketplace. Lavie (2007) contends that ties to prominent partners with abundant marketing and financial resources enhance market performance, whereas, technology and human network resources fall short of creating value. Previous research in the

semi-conductor and software sectors reveals a difference in the nature and degree of complementarity of network resources (Stuart 2000). The findings in this research may be unique to the telecommunications industry and further research in a cross sectoral setting would shed more light on this issue.

The findings of this study paint a different picture of these HTSMEs. The picture is of small firms using their human capital in terms of experience and industry knowledge to enhance their international performance. However, creating synergy among their network partners and effective information exchange is not a priority for these firms.

7.6 AN SME PERSPECTIVE ON THE FINDINGS

As SMEs were the focus of this research, it is worth considering what evidence exists in the literature in relation to firm size and networking. Firm size, proposed as an important characteristic to gain performance effects in networks, can be regarded as a proxy for resources where larger firms usually possess more product lines and higher production capacity together with organisational resources and slack (Penrose 1959: Koh & Venkataraman 1991: Alvarez & Barney 2001). Although smaller firms may be more flexible (Chen & Hambrick 1995), it could be argued that larger firms have better prerequisites for behaviour compared to their smaller counterparts in SME networks. In fact, Wincent (2005) contends that based on the premises just mentioned, larger firms may be better equipped to engage in inter-firm networking both in width (number of networking actors) and depth (networking intensity with the actors), inside the SME network (with other organisations) as well as outside the SME network, where customers, suppliers and competitors are the most prominent actors (Freel 2000).

Based on the same reasons, but when also highlighting the occurrence of resources and power, larger firms are also posited to exhibit more trust to their cooperative partners in the SME network compared to their smaller counterparts (Wincent 2005). Trust (from the firm's own perspective) includes a type of expectation that alleviates the fear of opportunistic behaviour from cooperative partners (Bradach & Eccles 1989) and a level of confidence that a firm has for its cooperative partners in matters of reliability and integrity to accomplish

their obligation in the partnership (Madhok 1995). For networks and firms in strategic cooperation, it has been shown that trust can serve as a substitute for, or a complement to, more formalized governance structures (Zaheer & Venkatraman 1995). Since a larger firm size can be considered a proxy for power and influence in cooperation where ‘hub-firms’, ‘flagships’, ‘dragons’, and other concepts often are mentioned to describe these actors in network environments (Jarillo 1988), larger firms may naturally develop trust due to power and influence.

Wincent (2005) also argued that, due to the fact that larger firms may be important for a whole strategic network, they might prosper from them. Therefore, firm performance implications were proposed to come from firm dispositions via firm behaviour. However, his findings were mixed since firm size was both directly and indirectly related to firm performance. Although larger firms networked more, the relations between firm behaviour and firm outcomes were not as expected, possibly due to unidentified variables that may better explain the process of how larger firms prosper in SME networks than from a key transformation through corporate entrepreneurship. Schumpeter (1934) argued that larger firms possess superior advantages for actions and outcomes compared to smaller ones. The larger amount of resources to commit to R&D mentioned by Schumpeter may be critical when in SME networks. In fact, Wincent’s (2005) research revealed that issues such as project competence, more resources, and more R&D capacity (found among larger firms) may explain the direct relationship between firm size and firm performance. Many smaller firms could only cooperate with larger firms in some projects because of these reasons.

Using a network marketing framework as a conceptual base, Coviello et al (2000) suggested that the requisites for effectively carrying out the different types of marketing vary and can pose different challenges to firms of different size. For example, larger firms may be more likely to have the capacity to practice Transaction Marketing given their scope of operations and markets served. They may also be more likely to engage in Database Marketing given their relative resource base and infrastructure, both of which are likely to be necessary to support the information and technology requirements of this type of marketing.

In contrast, smaller firms might be expected to be more relational in their approach to the market, emphasizing Interaction and Network Marketing. For example, if smaller firms are closer to their customer base (Carson et al. 1995), company personnel at all levels have the

potential to be involved with customers on an individual, face-to-face level. Combined with the small firm's resource constraints, flexibility, and opportunistic approach (Hisrich 1992), this might lead the small firm to rely on personal contact networks to develop the business and obtain information/feedback. Beyond personal contacts, small firms have also been found to make active use of inter-organisational relationships to facilitate growth (Coviello & Munro 1995).

Coviello et al's (2000) research showed that both large and small firms appear to practice aspects of Database Marketing. For example, both types of firm report an emphasis on retaining customers, and their customer base is a major focus in their market planning. Both also practice Interaction Marketing, as evidenced by the relatively high mean ratings accorded to the intent to build long-term, individual relationships with customers, where marketing communication is at a one-to-one, personal level. Finally, both practice aspects of Network Marketing, as senior managers actively position their firm with managers of other firms in their wider set of marketing systems. Overall, the combined results show that the marketing practices of smaller firms differ from those of larger firms in that they are more likely to practice Interaction Marketing and Network Marketing is only partially supported in their research

More recently, Saito et al (2007) found that larger firms tend to have more inter-firm relationships, but the relationship between firms' size and the number of their counterparts is not necessarily proportional; firms that already have a large number of counterparts tend to grow without proportionately expanding it. Beyond these points, it is clear that while differences might exist between smaller and larger firms, many similarities can be identified in relation to networking and that size alone cannot fully explain the variation in the findings of this research.

In relation to SMEs in international trade, Bank of Ireland (2005) showed that only 3 % of Irish SME firms are medium size with more than 50 employees. Overseas expansion and exporting was dependant on businesses growing to a medium sized enterprise, yet their research indicated that only 7 % of firms intended to expand abroad in the following twelve months. In this sample 70% of firms indicated they had future plans to further develop

international markets. This illustrates that these high tech SMEs are global in their outlook for the future.

7.7 AN INTERNATIONAL PERFORMANCE PERSPECTIVE ON THE FINDINGS

There is ample evidence in the literature pertaining to the benefits or outcomes of networks. For instance, effective business networks can promote economic development in a region (Safford 2004), act as a catalyst for innovation (Powell et al. 2005), stimulate new product development (Browning et al. 1995), and foster network-wide learning (Kraatz 1998). However, as mentioned in chapter three, research on the relationship between networks and performance is limited and the research on the relationship between networks and international performance even more so.

In the Irish SME context, OECD Figures (1998) show that about 40 % of SMEs in Ireland are engaged in export activity, and 53% of SMEs with more than 3 employees have been engaged in some export activity. In this study 66% of respondents indicated they were operating in international markets, which is well above the earlier OECD figure from 1998. However, ENSR (2003) place Ireland as having the third highest level of SME internationalisation in Europe. Luxembourg and Liechtenstein are ahead of Ireland on this score.

The ranking of performance dimensions outlined in chapter 6, table 6.7 shows that SMEs are most satisfied with their financial performance in international markets and least satisfied with their customer performance dimensions. Coviello et al (2000) found that smaller firms use fewer ways to measure market performance than larger firms. This suggests that larger firms are more comprehensive in this task, thus supporting Shipley and Jobber (1994). Although both types of firm focus on financial indicators, smaller firms do not use other types of measures (especially competitive comparisons) to the same extent. This finding supports an argument made by Carson et al (1995) regarding the relevance of measures such as market share to the smaller organisation, and also Carson's (1990) view of the small firm's price/profit orientation. Interestingly, smaller firms appear to make less use of customer-

based information to help evaluate their performance. This result is somewhat unexpected given smaller firms are assumed to enjoy easy access to market feedback, due to their closeness to customers and short lines of communication (Carson et al. 1995). These findings also need to be considered in the context of firms' responses to a question asking them to rate the importance of international markets to overall performance. Figure 6.2 in the previous chapter shows in percentage terms that a slight majority of firms err on the not important side of the chart.

7.8 FINDINGS IN THE CONTEXT OF THE TELECOMMUNICATIONS INDUSTRY

The telecommunications industry was the sector selected for this study based on the reasons outlined earlier in this thesis. Given the characteristics and dynamic nature of this sector, it is necessary to discuss the findings from this research in an industry context.

Moller and Svahn (2006) provided a typology of business networks based on their value creation characteristics. The third type they refer to is what they call the 'emerging new business net'. This typology is of relevance here in the context of the telecommunication and Internet firms under investigation in this study. Moller and Svahn (2006) argued that these firms aim at creating networks and nets through which new technologies, products or business concepts can be commercialized. This action is future-oriented in the sense that the economic value potential of these nets is generally fully realized only in the future. If the action is future oriented, so too are the outcomes of these collaborative actions in terms of business performance, or indeed international performance.

These future oriented nets, may require radical changes in existing value systems and in the creation of new value activities. For example, emerging mobile services are generally created through business nets involving a telecom operator, several 'middleware-type' software producers, and content and service providers. Emerging value systems involve complex collaboration and learning processes (for example, the Symbian and Bluetooth coalitions), and an inter-organisational relationship formation that is difficult to specify in advance. Uncertainty and ambiguity related to value activities and to actors and their capabilities are inherent features of this landscape, exemplified by the converging information, communication, and e-content fields (Eisenhardt & Martin 2000; Amit & Zott 2001; Doz et al. 2001).

Another aspect of emerging network is the wide dispersion of ideas and knowledge about the rising technological discoveries and the related value activities. Actors exploring and creating these opportunities generally come from several different fields (Lundgren 1995). The creation of new mobile Internet-based banking services, for example, involves the expertise of the Internet-related software solutions, wired-technology, mobile terminals, mobility software, radio technology, secure-over-net payment technology and financial services. Each actor has a specific view of emerging opportunities based on his or her specialization and particular technology base. As specialization leads to a narrow view, actors have difficulties in developing a wide or systemic perspective on the emergence and its opportunities.

The complex and uncertain character of these so-called emerging business networks have implications for learning and knowledge management. Two key issues are how to recognize the dispersed and vague ideas, and then how to make sense of them. It seems that actors who are located in the nodes connecting multiple actors which are creating different types of new knowledge have better chances of recognizing emerging technological and business opportunities than highly specialized actors (Powell et al. 1996; Håkansson et al. 1999; Kogut 2000; Barabasi 2002). Also firms being involved in several interlinked but different business nets have increased exposure to emerging ideas from other actors. As discussed in earlier chapters, it is important, however, to have a balanced proportion of weak and strong ties because several studies indicated that emphasis on strong ties only diminishes the amount of variety in information and thereby weakens the potential for innovations (Granovetter 1985; Uzzi 1997). Proactive incumbent firms have also deliberately increased their exposure to and exploring potential of emerging technologies by acquiring small technology firms. Moller and Svahn (2006) saw this is a costly way of increasing the variety and richness of one's learning environment. Similar results may be achieved by having an extensive alliance network, including R&D projects with interesting SMEs (Dyer & Singh 2000; Hinterhuber 2002). The utilization of exposure is not unproblematic, however. It requires knowledge of the actors influencing the network evolution, and competence in interpreting their views and orientation. The recognition of the potential in new or even existing knowledge presumes a capability of making sense of it (Weick 1995). That entails a capacity to learn or an absorptive capacity (Cohen & Levinthal 1990), depending on the knowledge base of an organisation, the learning skills of its boundary personnel and their motivation for search behaviour.

In emerging value-systems actors are facing great uncertainty of the relative value of new knowledge. For example, which technological modes like UMTS, CDMA, and PDC in the third and even the fourth generation mobile telephones will become dominant designs in which markets? There is also ambiguity on which actors master what kind of knowledge and value activities. An ability to develop a systemic view of the emerging field with its different types of actors and to envision promising new business concepts is valuable as it reduces the perceived uncertainty and provides direction for action. Vision is, however, not enough; the development of a new net requires a strong position in the field. Moller and Svahn (2006) proposed that an impending hub firm should have specific resources and knowledge that make it an attractive mobiliser for potential partners. The more important these resources are perceived to be for the emergence of the new business field, the more power they accrue for their holder. A mobiliser should be able to develop and communicate an agenda for influencing the field to a preferred direction. Agenda setting involves communicating one's beliefs and visions and providing direction by suggesting a business model for the potential actors of the new net. The hub firm should also be able to create an organisational forum for sharing the work and responsibilities between the actors, to establish coordination mechanisms for net cooperation, and to instil a network identity (Dyer & Nobeoka 2000; Gadde & Håkansson 2001; Kale et al. 2002). Nokia Corporation's announcement on 12 November 2001 that it would provide open access to part of its mobile-telephony source code is an example of agenda setting leading to wide network mobilization. The announcement was related to the formation of an alliance of 18 key players in the mobile-phone field who endorsed their commitment to 'open mobile architecture enabling a non-fragmented global services market'. This agenda-setting move led to the establishment of the Open Mobile Alliance (OMA, June 2002, <http://www.openmobilealliance.org>), which aimed at the more-rapid development of the global market for 3G mobile services, such as multimedia messaging through Internet applications, by trying to achieve complete interoperability between different systems. This was expected to benefit all players through more rapid growth in both demand and available applications. OMA is an example of strategic net mobilization, showing how through careful agenda setting one actor tries to influence an emerging business sector. Rather than keeping the traditional approach of organizing activities around 'technology silos', with different standards and specifications bodies representing different mobile technologies, working independently, OMA is aiming to consolidate into one organisation all specification activities in the service enabler space.

The concept of the hub firm with agenda setting and mobilizing capabilities mentioned above has parallels with Rugman and D’Cruz’s (2000) flagship firm in their framework of the flagship/five partners model. The five partners consist of a flagship firm (usually an MNE), key suppliers, key customers, competitors and the non-business infrastructure. Small businesses are an integral part of the business network conceptualised in this flagship model. Their relationships with the flagship firms are critical both to their own success and to that of the entire cluster. Rugman and D’Cruz (2000) look specifically at the high technology and deregulation issues of the telecommunications sector in Canada and France. It is evident from their analysis that rapid technological change, convergence, increased exposure to global competitors, and the reality of technical interdependence would suggest that the hierarchical structures and competitive isolation of the past are not sufficiently adaptive to respond effectively to change. Taking Rugman and D’Cruz’s (2000, p. 201) list of problems associated with operationalising their model. These problems can in light of the findings of this thesis, however, be viewed as an overview of the current reality for SMEs operating with key firms such as mobile operators in the telecommunications industry in Ireland. These challenges/issues are as follows:

- Network partners and/or SMEs have to accept the reality that they have limited strategic autonomy and must operate with the constraints and directives of the flagship (for example, mobile operator). They have little choice over the products or market they will service, or over the choice of architecture for their information systems. Unless they can achieve mature flagship status, partners and/or SMEs have little strategic direction over the network.
- Within its assigned domain the partner is expected to be more efficient than the flagship. It should therefore, aim to produce at lower cost than the flagship or the partners of competing flagships. It needs to keep overheads to a minimum and invest in process technology that reduces costs. It should expect to achieve, or exceed, learning curve targets for cost reduction set by the flagship.
- The supplier should meet and eventually exceed the quality expectations of the flagship (normally ISO 9000 standard). Cost competitiveness cannot be used as an excuse for compromising quality standards. Particularly, in the current challenging economic climate, partners must develop an attitude in which cost and quality can be jointly optimized.

- Network partners should develop capabilities for meeting enhanced expectations of the flagship about the pace of new-product development. Flagships have come to rely on the capability of their partner to respond quickly to changes in direction.
- Loyalty to the network is a critically important aspect of culture that the partner is expected to display. Employees must be seen to possess loyalty to the flagship. They may even be expected to work from their premises, use flagship products and display flagship insignia on their work wear.
- A major strategic issue for network partners is to keep contact with the outside competitive environment. When possibly precluded from dealing with flagship rivals and other customers, suppliers may lose valuable feedback about their relative standing in the market-place. They may have limited information about their cost competitiveness, or product developments by their competitors, and little grasp of technological developments in their industry.

7.9 CONCLUSION

The objective of this chapter was to discuss in more detail the results found in chapter six. The first part dealt with a discussion on network characteristics, followed by network operation, network resources and finally, the results were discussed in the context of SMEs, international performance, and the telecommunications industry. The next and final chapter draws general conclusions from the research findings, discusses the implications for managers, considers a number of research limitations and suggests directions for further research.

CHAPTER EIGHT - CONCLUSION

8.0 INTRODUCTION

The previous chapters of this thesis presented the theoretical foundations on which a new model was developed along with specific research hypotheses (chapters 2, 3 and 4). This was followed by a chapter describing the methodology used to test the model and hypotheses. In chapter six the results of the statistical analysis used to test the research hypotheses were presented. The statistical results were then discussed in chapter seven. Finally, this chapter brings together the main findings of the thesis and presents the key conclusions of the study. First, the major research contributions and implications for managers are discussed. Subsequently, the main limitations of the research are considered and since limitations provide opportunities for future research, the chapter ends with some suggestions for further research.

8.1 CONTRIBUTIONS OF THIS RESEARCH

The present thesis makes some key empirical, theoretical and methodological contributions which are explicitly analysed in the following sections.

8.1.1 Empirical Contributions

This study adopted a positivist approach in which a conceptual and theoretical framework was developed and tested empirically. A cross-sectional study was conducted using a sample of SMEs drawn from the telecommunications industry in Ireland. During the mail survey a useable response rate of 33.64 % (154 firms) was obtained. Nine hypotheses were analyzed using structural equations modelling using LISREL. Overall, three hypotheses were supported, four hypotheses were positive, but non-significant and four hypotheses were negative and non-significant.

The hypothesis stating that stronger ties are more influential on international performance than weak ties was supported. Similarly, network coordination and human capital resources were found to be positively and significantly associated with international performance. Strong ties, weak ties, trust, network initiation and synergy sensitive resources, relational capability, network learning and information sharing were not significantly associated with international performance. The results of this study are strong ($R^2=0.63$), and provide a number of interesting insights into relationships between collaboration or networking capability and performance. Consistent with previous research (Schrader 2001) there was limited evidence of a direct relationship between the two.

In relation to network coordination, Goerzen (2007) disconfirmed the widely discussed perspective of the value of minimizing transaction costs within alliance networks and considers some of the various explanations for this. One reason may be that the repeated ties in expanded networks act to lock out newcomers with the needed cutting-edge technologies as suggested by Gulati (1999) and Marsden (1981). Thus, a management team that overemphasizes the need to reduce alliance transactions costs may be placing too high a premium on management efficiency. Further, it may be that policies of exploiting existing routines, or perhaps even complacency, may drive out the desire for new knowledge creation and absorption, especially in technologically uncertain environments. Firms, by focusing primarily on achieving improved coordination across networks, may be reducing the opportunities for novel systems, procedures, or perspectives to enter into their network (Goerzen, 2005). Taken together, this suggests that the economic factors of coordination costs and appropriation concerns must be considered together with social or behavioural patterns to improve our understanding of the impact of network characteristics and capabilities on firm performance.

Anecdotal and case study evidence in the literature has strongly suggested that collaboration with foreign partners *may be required* for resource-constrained young or small firms making their initial forays into foreign markets (Oviatt & McDougall 1994; Zacharakis 1998). Given that no support was found for the hypothesis that 'synergy sensitive resources' have a positive impact on international performance, this does not appear to be the case in this research. Taken together, it appears that these SMEs concerned with exploiting technological or market opportunities internationally are opting to go it alone and leveraging internal as opposed to external resources.

A limited number of studies in the international entrepreneurship literature have focused on the firm's capability/resource base, particularly in technology intensive sectors, and their potential impact on international performance (Mc Dougall & Oviatt 1994; Coviello & McAuley 1999). Furthermore, the internationalisation literature has traditionally tended to examine small firms as a homogenous sector characterised by resource shortages, which act as inhibitors to geographical diversification (Miesenbock 1988; Buckley 1989).

By separating out SMEs in the telecommunications sector for research and analysis, this study reveals a different perspective on internationalisation, networking capability and indeed on the industry itself. Contrary to the overview of the industry provided in chapter one and in appendix 9, the SME component of this sector do not seem to engage in inter-firm collaborations to the same extent as their larger counterparts in the sector. In fact, prior research in telecommunications has a tendency to focus on the large players such as mobile operators, leaving the small firm dimension under researched. In relation to networking capability, as mentioned in the previous chapter, smaller firms are more likely to be locked in and subject to inertia in networks due to their liabilities, whereas larger firms (or flagship firms) may often be better established within the network and can possibly exercise more power over smaller firms (see checklist at the end of section 7.8).

Furthermore, the level of importance placed on international markets of the SMEs in this research is decidedly mixed and on the low side of the scale (see section 6.1, figure 6.2). This has important implications as Bernardino and Jones (2009) found that high technology SMEs with stronger international orientation achieve higher levels of international performance. Schrader (2001) found that while technological investment in high tech firms did lead to a high performance, collaborating did not further enhance it, instead collaborating suppressed performance.

Other empirical contributions of this study contradict expectations. Although, the results turned out to support the null hypotheses, these results can be said to make an empirical contribution. Firstly, strong ties, trust, network initiation and synergy sensitive resources were all positively associated with international performance, but not significant. Secondly, weak ties, relational capability, network learning and information sharing were negatively associated with international performance.

Given that the HTSMEs in this sample were predominantly in the services sector (see chapter 6, table 6.3 for a complete list of activities carried out), it is maybe not surprising that human capital resources were positively associated with international performance. Aligned with this finding is the lack of association between synergy sensitive resources, information sharing and international performance. It would seem that firms operating in this dynamic sector tend not to use their network partners to combine resources (the main resource being people and know-how), nor share information, possibly due to the fact that they are dealing with proprietary knowledge.

Also contrary to small business literature, these firms do not utilise their external network to drive internationalisation. Taking an industry perspective, it would appear that firms have increased their exposure to and exploring potential of emerging technologies by acquiring other small technology firms, thereby locking in complimentary resources through part or full ownership structures. It would also appear that these firms have a preference for strong ties, or high control modes of entry to foreign markets than for weak ties or lower control modes. This finding challenges the literature highlighting the importance of weak ties over strong ties in internationalisation networks.

Some of the other findings 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. There is a suggestion in the literature that the greater the relational embeddedness/relational capital, the greater the likelihood of relational exchange. This exchange is captured by the construct synergy sensitive resources and there was also no relationship supported here. 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, although these results may not reflect the predictions of network theory, they may indeed reflect reality and implies 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.

8.1.2 Theoretical Contributions

This research makes a number of theoretical contributions to literature on mode of entry, dynamic capabilities and trust. An additional contribution is made to the international entrepreneurship literature by re-conceptualising the original model tested in this study (see figure 8.1).

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 & 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 (1978) 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. Over time, these firms become involved in greater resource-consuming modes. These firms may progress from direct exporting to setting up a subsidiary abroad. As the internationalizing firm engages in more resource-consuming modes, it acquires more control over its international activities.

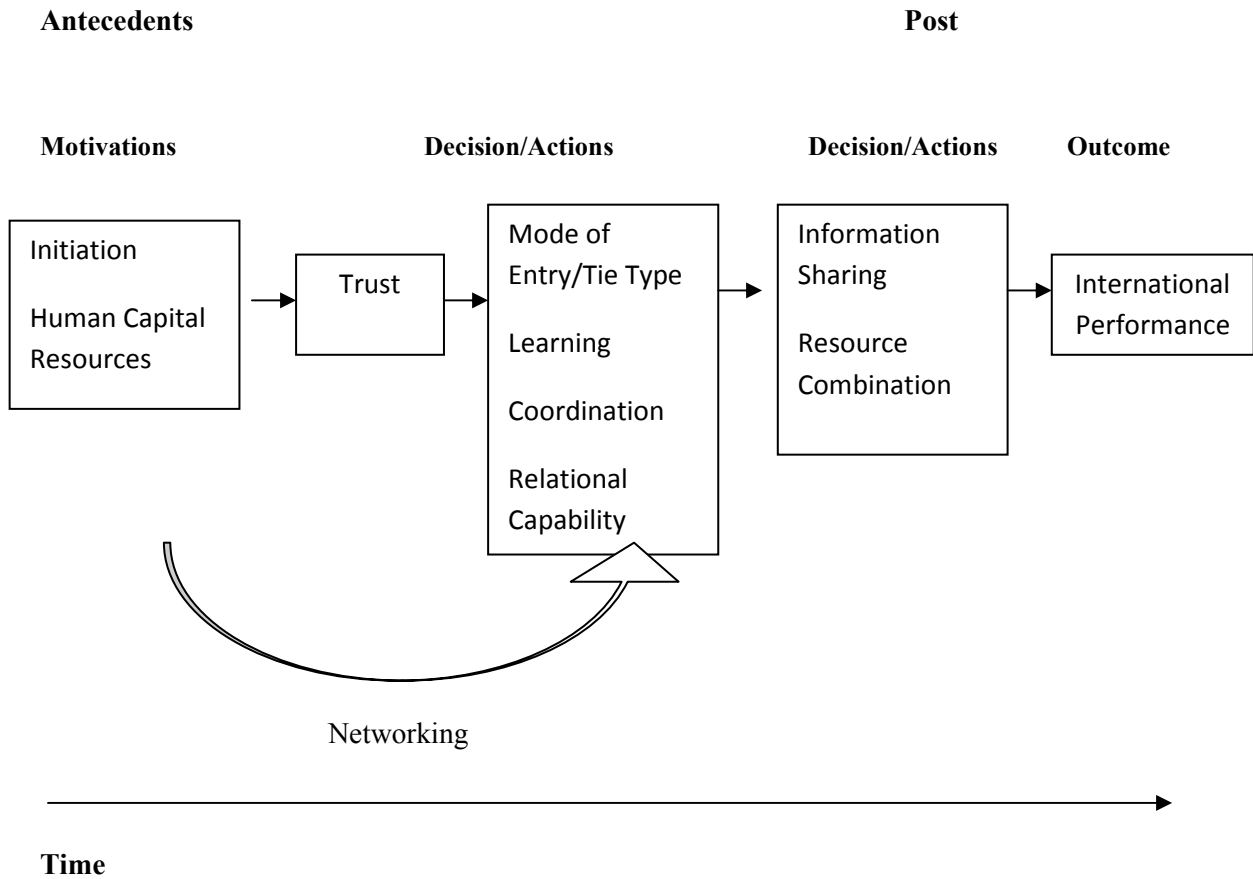
The entry mode as a formal part of the internationalisation process, and indicative of the competitive stance of SMEs in international markets, would seem fundamental to a fuller understanding of international entrepreneurship according to Jones and Young (2009), who reviewed over 140 international entrepreneurship 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 network 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 operationalise the tie strength construct when measuring the elements of network characteristics.

Thus, by treating strong and weak ties as separate constructs rather than degrees of one another, similar to Rowley et al (2000), this study captures richness in the data, which past researchers deem important in understanding network effects and firm behaviours. This study

collected network data on several types of strategic ties based on categories adapted from Contractor and Lorange's (1988) scheme. While they treat the categories as an ordinal scale, this study separates these alliance types (entry modes) into two groups: weak and strong ties. There is a natural demarcation among these ties based on the resources committed to the alliance. In addition to a substantially higher level of resource commitment, the alliance types in the strong tie category require 'up front' resources and significantly more frequent interactions. Partners must invest in the alliance before realizing any benefit and maintain regular interactions to yield those benefits. The alliances under the weak tie category require a substantially smaller resource commitment from the partners, and these ties are closer in nature to an arm's length transaction.

Recent conceptual advances in international entrepreneurship research suggest means by which modes contribute to the understanding of internationalisation as a temporal process (Bell et al. 2003; Jones & Coviello 2005, Jones & Young 2009). Building on Brazeal and Herbert's (1999) model of the entrepreneurial process, Jones and Coviello (2005) model, Jones and Young (2009) model and the results of this present study, a simple, descriptive model of internationalisation as process-linked events consisting of networking capability, leading to mode and country choice in a dynamic process of resource commitment and change is proposed (see figure 8.1). Similar to the Jones and Coviello (2005) model, the mode is positioned as a formal event linking post and antecedent processes. The model is cognisant of Johanson and Vahlne's (1990) state and change notion of internationalisation, and internationalisation as entrepreneurial behaviour marked by innovations in the form of new entries to new markets (Andersen 1993; Knight & Cavusgil 2004). This model differs from earlier iterations in that it incorporates initiation capability and human capital resources followed by trust as antecedents. The decision/action elements of this model comprise mode of entry/tie type, learning, coordination and relational capability. The post or decision/action elements include resource combination, information sharing and the relevant outcome variable - international performance in this case. Thus internationalisation through networks is depicted as a dynamic and entrepreneurial process of behaviour wherein each entry mode or tie type established in each country represents a radical or incremental (path-dependant) innovation. Following Schumpeter (1934) each adjustment of mode and country potential creates new value for the firm. This study measured the direct effects of constructs of networking capability on international performance. However, the literature provides

additional evidence that the key to understanding how networking affects performance is to examine the factors that moderate the relationship.



Adapted from Jones and Young (2009)

Figure 8.1: New Model of Network Internationalisation

The usefulness of this model is that in a non-prescriptive way it describes internationalisation as a temporal process in which the formal establishment of an entry mode/tie type is an event occurring as a specific point in time because certain processes (initiation and human capital) have enabled its formation. Viewing internationalisation in this way enables both event (entry mode and networking capability) and temporal process (internationalisation) perspectives to be considered (Van de Ven & Engleman 2004). It also illustrates the importance and interdependence of variance in research designs in understanding the relationship between entry mode decision and outcomes, and processes such as networking, knowledge

development and the establishment of organisational routines. This model would need to be validated on a new sample of companies.

The growing focus on the dynamics of international exchange relationships is evident in an increasing number of studies based on relationship marketing and network theory approaches (Ellis 2000). In terms of the former, much of the literature to date has focused on relationship development (Ford & Rosson 1982; Leonidou 1989; Katsikeas & Piercy 1990) while relationship initiation has rarely been studied (Dwyer et al. 1987; Wilson & Moller 1991; Heide & Miner 1992; Andersen 1996). From the broader network perspective, foreign market entry is viewed as a function of the ongoing inter-organisational interactions between the focal firm and its network. That is, foreign market opportunities are seen to be communicated to the firm via its relationships with network partners (Ford 1980; Johanson & Mattsson 1988; Blankenburg 1995). However, the network approach offers little guidance to those firms whose network horizon is limited to the local market (presumably most SMEs). For such firms international expansion is problematic and is seen to follow the default hypothesis of psychic distance (Andersen 1996). It is somewhat telling that those foreign market entry studies which follow the network approach usually concern fairly large companies, or their subsidiaries, who benefit from their a priori highly-internationalized networks (Axelsson & Johanson 1992; Blankenburg 1995). Ellis (2000) contends that despite recent advances in understanding the dynamics of international exchange relationships, little conceptual progress has been made in the critical area of relationship initiation, an area that is specifically addressed in this study.

The proposition of networking capability in this study corresponds to the idea of networking as a potential capability of firms which impact on their resource base. It underlies the core concept of the Resource Base View (RBV) about the firm being the primary driving force of its own business behaviour and performance through the utilization of its resources and capability (Penrose 1959). In particular, it integrates the idea of dynamic capability extended from the RBV, which takes into account the development of external contacts (networks) of a firm as one of the important means for new resources and capabilities to be acquired and integrated into its resource base (Teece et al. 1997; Eisenhardt & Martin 2000). With regard to human capital resources, Manolova et al (2002) identified personal factors as a common theme in their research on the internationalisation of small firms, but no study (with the exception of Ruzzier et al. 2007) gave much attention to the relative importance of the

various dimensions of human capital embodied in the entrepreneur as they relate to the internationalisation of SMEs.

This research also contributes to dynamic capabilities research (Teece et al. 1997; Eisenhardt & Martin 2000; Zollo & Winter 2002; Helfat & Peteraf 2003). Dynamic capabilities are seen as ‘higher-order capabilities that help a firm extend, modify, or improve its ordinary or operational capabilities that are relevant to managing any given task.’ In the context of networks, a firm’s skills to manage different aspects of any network (Gulati 1999) represent relevant operational skills necessary to manage network activities. Rothaermel and Boecker (2008) argued that the capability to form the ‘right’ alliances is an important competence that allows firms not only to adapt to changing markets and technologies, but also to create market change that favours their competitive strengths (Teece et al. 1997; Eisenhardt & Martin 2000).

But the network learning process seems like a higher-order dynamic ability that helps a firm learn, accumulate, and leverage alliance know-how so as to modify or improve its operational alliance management skills and achieve greater overall alliance success (Kale & Singh 2007). Thus, the contribution to dynamic capabilities research is made by conceptualizing and validating the relevance of a potential dynamic capability in the context of networks.

The foregoing discussion in earlier chapters suggests that networking activities may enable small firms and born global firms in particular to overcome their resource-based constraints on international market entry. However, past born global research has failed to specifically examine the role of networking activities in international market entry. Similarly, although the literature assigns a prominent role to networking activities in small firm internationalisation it has failed to conceptualise networking activity as a dynamic capability (Sullivan-Mort & Weerawardena 2006).

Extant research on firm capabilities has focused primarily on the link between capabilities and performance-related outcomes (Lieberman et al. 1990; Clark & Fujimoto 1991; Henderson & Cockburn 1994). However, far less research attention has been paid to the *sources* of firm capabilities. What research has been conducted in this area has focused on sources internal to the firm. In contrast, Mc Evily and Zaheer (1999) maintain that there are important *external* sources of capabilities that firms draw upon to varying degrees (Galaskiewicz & Zaheer 1999). They propose that these ‘network resources’ (Gulati 1999)

enable and constrain firms' abilities to acquire competitive capabilities through differential exposure to information and opportunities. This study focuses on the human capital, synergy sensitive resource and information sharing aspect of these network resources and provides additional insight into the possible outcomes of deploying these resources.

While the strategic management literature has explained performance differences in terms of resources and capabilities, there is scant theory explaining how firms identify, obtain, and develop competitive capabilities. Some previous work in this area has suggested that capabilities derive from external linkages such as alliances (Hamel 1991) and networks of information (Zaheer & Zaheer 1997), or learning (Powell et al. 1996). This research extends this stream of research by elaborating upon how firms' networking capability in terms of characteristics, operations and resources influence a firm's performance in international markets. For strategy research, because high-trust relations penetrate irregularly and in differing degrees bridging ties offers an important explanation for the differences among firms' competitive capabilities.

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." This study measured trust independent of 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. 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 indentifying 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 conditions (Rindfleisch & 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 relationship preservation (Heide & 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. 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. That external uncertainty increases opportunism opens up an intriguing area for research. 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.

8.1.3 Methodological Contributions

A challenge for survey research on small and entrepreneurial firm internationalisation according to Jones (2001) is to accommodate the diversity of internationalisation behaviour in the research design, and to devise appropriate means of analysis in order to take full advantage of the richness of data generated. Jones (2001) further recommends that future survey research include as wide a range of internationalisation possibilities as possible and should be examined within a narrowly defined, relatively heterogeneous sample of firms from an industry or an industrial or geographical cluster. General, cross-sectoral surveys, which cover a wide range of firm types and sizes, tend to produce results that mask real differences in internationalisation behaviour. Studies of more narrowly defined groups of firms should generate richer data from which to develop explanation and theory. This study addresses these specific concerns as it investigates the international behaviour in terms of performance outcomes of SMEs in the telecommunications industry.

Measures of networking capability are developed and validated in the context of international business, which is only one of a very few studies to do so (Loxton & Weerawardena 2006). In fact, a current research programme undertaken by the Naval Postgraduate School in Monterey, California involves developing a scale to measure Inter-organisational Collaborative Capacity (ICC) as Jansen et al (2008, p. i) states that “the research literature indicates that major barrier blocking progress in understanding ICC is the absence of reliable,

valid measures of the construct”. The measure in this study, based upon psychometric properties, was designed to capture nine composite dimensions (strong/weak ties, relational capability, trust, initiation, coordination, learning, human capital resources, synergy sensitive resources and information sharing) in a reflective higher-order factor model. The items succeeded in capturing the underlying dimensions of networking capability. The scale is able to differentiate between firms with different levels of networking capability. This study measured the direct effects of the various elements of networking capability and international performance to avoid the chance of positive effects masking negative effects as was the case with Schrader’s (2001) research using moderating variables.

Overall, the current study has provided a combination of theoretical, empirical and methodological implications for the internationalisation literature and for the measurement of empirical constructs. Table 8.1 below gives a summary of the main contributions. The findings from both the measurement model and the structural models contribute to the expanding body of SME internationalisation and network capability literature. As a direct outcome of these findings, scholars now have measurement scales for networking capability. Moreover, the conceptual typology and its sets of interrelationships provide a partial explanation of the network capability – international performance relationship.

Table 8.1: Summary of the Main Contributions of This Study

Theoretical Contributions
International business - provides evidence of a collaboration-performance relationship - the conceptual typology and its sets of interrelationships provide a partial explanation of the network capability – international performance relationship.
Resource Base View (RBV) - The proposition of networking capability in this study corresponds to the idea of networking as a potential capability of firms which impact on their resource base.
Dynamic capability - takes into account the development of external contacts (networks) of a firm as one of the important means for new resources and capabilities to be acquired and integrated into its resource base. This study conceptualises networking activity as a dynamic capability.
Human capital resources - attention given to the relative importance of the various dimensions of human capital embodied in the entrepreneur as they relate to the internationalisation of SMEs
Mode Selection - 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 & Johanson, 1992), mode selection has been neglected. This study explicitly addresses this gap in previous studies as it uses mode to entry to operationalise the tie strength construct when measuring the elements of network characteristics. Re-conceptualised model advanced.
Strength of Ties - by treating strong and weak ties as separate constructs rather than degrees of one another, similar to Rowley et al (2000), this study captures a richness in the data, which past researchers deem important in understanding network effects and firm behaviours
Export Performance - the relationships between networking and export performance is under researched (Babakus et al., 2006). This research addresses this specific gap in the literature.
Source of Firm capabilities - limited research attention has been paid to the <i>sources</i> of firm capabilities. What research has been conducted in this area has focused on sources internal to the firm.

In contrast, Mc Evily and Zaheer (1999) maintain that there are important <i>external</i> sources of capabilities that firms draw upon to varying degrees (Galaskiewicz & Zaheer, 1999). They propose that these ‘network resources’ (Gulati, 1999) enable and constrain firms’ abilities to acquire competitive capabilities through differential exposure to information and opportunities. This study focuses on the human capital, synergy sensitive resource and information sharing aspect of these network resources and provides additional insight into the possible outcomes of deploying these resources.
Strategic management - This research extends this stream of research by elaborating upon how firms’ networking capability in terms of characteristics, operations and resources influence a firm’s performance in international markets. For strategy research, because high-trust relations penetrate irregularly and in differing degrees bridging ties offers an important explanation for the differences among firms’ competitive capabilities.
Trust - This study measured trust independent of 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. Further, these findings provide new insights into the significance of the operating environment in which international exchange is embedded. As Zaheer and Zaheer (2006) note, there is still only the barest appreciation of the role of trust in cross-border relationships.
Relationship marketing - much of the literature to date has focused on relationship development - while relationship initiation has rarely been studied. Ellis (2000) contends that despite recent advances in understanding the dynamics of international exchange relationships, little conceptual progress has been made in the critical area of relationship initiation, an area that is specifically addressed in this study
Knowledge-based view of the firm - There is very little research that tries to conceptualize and empirically analyze some of the specific organisational processes through which knowledge is accessed, learned, shared, or leveraged (Kale & Singh, 2007). By using firms and their networks as a context, and by conceptualizing the network learning process that impacts on international performance, this gap in the literature is addressed.
Empirical Contributions
Contributes to empirical work focusing on the effect of network capability on international performance
Empirically proves the existence of distinctive network capabilities in SMEs
Provides empirical evidence that challenges conventional wisdom in relation to the positive impact of networks.
Empirically proves that strong ties are more beneficial in terms of international performance than weak ties
Provides empirical evidence of a link between network coordination, human capital resources and international performance
Empirically proves a lack of support for the positive relationship between strong/weak ties, relational capability, trust, initiation, learning, synergy sensitive resources, information sharing and international performance
Proves the multi-dimensionality of the network capability construct, through demonstrating differing effects of its constituents (namely strong/weak ties, relational capability, trust, initiation, learning, coordination, human capital resources, synergy sensitive resources and information sharing)
Methodological Contributions
Research design- accommodates the diversity of internationalisation behaviour of firms and appropriate means of analysis (SEM) devised in order to take full advantage of the richness of data generated.
Examines the themes of network capability and international performance under a quantitative study and draws generalisable conclusions based on statistical analysis and hypotheses testing.
Measures of Constructs - measures of networking capability are developed and validated in the context of international business, which is only one of a very few studies to do so (Loxton & Weerawardena, 2006). The measure in this study, based upon psychometric properties, was designed to capture nine composite dimensions (strong/weak ties, relational capability, trust, initiation, coordination, learning, human capital resources, synergy sensitive resources and information sharing) in a reflective higher-order factor model. As a direct outcome of these findings, scholars now have measurement scales for networking capability.

Direct Effect - this study measured the direct effects of the various elements of networking capability and international performance to avoid the chance of positive effects masking negative effects as was the case with Schrader's (2001) research using moderating variables
Survey research – includes a range of internationalisation possibilities examined within a narrowly defined, relatively heterogeneous sample of firms (SMEs) from a telecommunications industry perspective, as studies of more narrowly defined groups of firms should generate richer data from which to develop explanation and theory (Jones, 2001)
Response rate – this study provides strong evidence based on a useable postal survey response rate of almost 34%.

8.2 MANAGERIAL IMPLICATIONS

8.2.1 Coordinating Network Activities

The managerial implications of what Kale and Singh (2007, p. 996) refer to as ‘opening the black box’ between the alliance/network coordination function and overall alliance success are obviously important. Companies that desire to have networking capabilities and greater overall success emanating from their networking activities need to have a dedicated alliance or coordinating function to manage their collaborative endeavours. But, more important, they also need to have a strong network learning process to articulate, codify, share, and internalize network management know-how since it has a direct impact on firms’ networking capability and overall alliance success, and it acts as one of the main mechanisms through which the alliance or coordination function leads to greater alliance success. In fact, this is possibly one area where SMEs can learn from their larger firm counterparts. Kale et al (2002) found that a dedicated alliance function can increase the firm’s tacit knowledge with regard to alliance/network management. Individuals who are assigned to work in this function are in a position to develop significant firsthand experience with regard to every facet of an alliance, from formation to termination.

Moreover, a dedicated alliance function can facilitate the sharing of tacit knowledge through training programmes and by creating internal networks of alliance managers. For example, HP has developed a 2-day course on alliances. Kale et al (2002) contends that an investment in a dedicated alliance function can enhance a firm’s alliance capability by: (1) acting as a focal point for learning and leveraging both explicit and tacit lessons from prior and ongoing alliances; (2) keeping numerous stakeholders, including investors, apprised of new alliances and successful events in ongoing alliances; (3) improving internal coordination and resource support of alliances; and (4) monitoring and evaluating alliance performance. All these

activities should help the firm in generating greater value and success from its network activities.

8.2.2 Managing Resources and Networks

Results from this study will provide policy makers and practitioners with additional insights into network resource based factors that are associated with international performance for HTSMEs. As acknowledged elsewhere (Cooper et al. 1994), it is not implied that the variables selected for this study are the only ones that contribute to the propensity to export. However, the variables selected have the advantage of being visible and relatively easy to assess by managers and entrepreneurs (Cooper et al. 1994). Storey (1994) contends that these variables are amenable to public policy intervention, unlike variables such as business age and size. Furthermore, Westhead et al (2001) believe that through advice and training, the capabilities, competences and networks of some entrepreneurs can indeed be enhanced. In fact, Loane et al (2008) believes that in order to address some of the barriers to international trade, SMEs would benefit from programmes that help to develop entrepreneurial skills, expertise and networking capabilities.

Managers, on the other hand, have long known intuitively that relationships are somewhat important to business. The research presents evidence of a positive link between network coordination, network human capital resources and international performance. Taking this on board at the firm level has implications for resource allocation. The identification of performance-driving relational variables allows for the development of relationship audit tools as a way of structuring regular relationship reviews, such as those developed in Australia by Styles et al (2008). The logic is that if relationships are linked to performance, they need to be monitored as are other performance enhancers. Such an assessment would help identify specific areas of relationship strengths and weakness in terms of the level of trust, learning, coordination, and human capital available to firms, the combinations of complementary resources across firms and the extent and level of information exchange between firms. Overall this will allow managers detect problems early in the relationship, and assist in its overall management.

8.2.3 Balanced View of Networks

Sullivan-Mort and Weerawardena (2006) make the point that networks may not be a panacea for all ills for business. Managers need to be cognisant of the benefits and drawbacks of

networks in their strategic decision making. Furthermore, firms can also suffer from being in what Uzzi (1997) refers to as an ‘over-embedded network’. According to Uzzi, these close relationships block out external information from other sources. This shows that the firm in such a closed network fails to recognize new and better opportunities. Indeed, these ‘ties that bind’ can lead to ‘ties that blind’ (Grabher 1993, p. 24). In this situation, it is important for the firm to have weak ties so that it can enter other networks and thus expose itself to new knowledge and opportunities (Granovetter 1973). Furthermore, when firms exit a relationship, there are switching costs, inactivity, and the impact on other interconnected relationships to consider (Johanson & Vahlne 2006).

The evidence available in the literature on the benefits and outcomes of networks should, however, not be ignored. In a paper focusing on relative absorptive capacity of firms in the pharmaceutical and biotechnology industry, Lane and Lubatkin (1998), suggest that firms should devote at least as much attention to managing capabilities (for example, networking capabilities) as it does to managing its physical assets. As competition becomes more knowledge-based, a firm must develop a thorough understanding of its own knowledge, the processes by which it converts knowledge to capabilities, and the capacity of those capabilities to meet the demands of its environment. This argument by Lane and Lubatkin (1998) still holds true today and still holds true for the industry under investigation in this study.

This study provides an alternative view of the effects of networks on international performance, and managers should conduct further analysis of the contingent effects of networks on international business development to highlight situations where networks may have limited, zero or even negative effects on business development. This, according to Tang (2009) can increase business practitioners’ awareness of their active role in directing networking activities purposefully and effectively, in order to cultivate networks that present specific strengths to fulfil the business function and resource demands for the pursuit of international business development. It is particularly essential for resource constrained SMEs as excessive, ineffective networking may result in networks that provide no added value and instead become a resource burden. Tang (2009) also cautioned that practitioners need to adapt and adjust the networks of the firm responsively, in order to cope with contextual changes in international business development.

Rothaermel and Deeds (2004) indicate that firms should strike a balance in the number of alliances or networks they enter. Entering too many may lead to a risk of mismanagement, expropriation, and opportunism. On the other hand, too few may put the venture at a competitive disadvantage and may curtail the possibility of developing an alliance or network management capability.

8.2.4 High Technology Firms

For managers operating within the context of globalisation, economic integration and the constraint of the HTSME internal resource-base often need to make decisions on the degree to which their firms should engage in foreign operations. Thus, it is necessary to identify and review the resources that are critical to the international performance of their firms and develop and implement business strategies building on those resources in order to enhance the likelihood of international success. Furthermore, managers/entrepreneurs of high technology SMEs should consider foreign market activities from an early stage in their development if they want to be successful (McDougal et al. 1994). In so doing they benefit from incorporating an international perspective into their plans and business activities (Bernardino & Jones 2009).

According to Jones (2001) high-technology firms may be faced with the need to develop contacts and links in relation to the precompetitive development of their technology. Cross-border links may enable firms to tap into a foreign science base thus augmenting their technology-based resources. EU innovation policy encourages and often supports such collaborations, providing contact networks and events for this purpose. Without appropriate advice, however, firms are vulnerable to exploitation and the potential loss of unprotected technology. Advice on internationalisation needs to extend beyond export support and bridge the gap between the precompetitive and competitive stages of technology development where these take place cross-nationally. In general, the key message for managers and policy makers from the findings is that collaboration provides advantages and disadvantages and is, therefore optimal under the right circumstances.

8.2.5 Support for business

Forfás (2008) report that Ireland has a strong base of modern, internationally trading enterprises in key sectors such as life sciences, functional foods, specialised ICT and engineering, digital media, internet services and a range of internationally traded services.

Enterprise Ireland is working intensively with companies to support them through the current difficulties, to exploit market opportunities and to drive innovation and internationalisation. This is being achieved through a targeted focus on sustaining and creating exports with a wide range of strategic and financial supports. There is a strong emphasis on building the leadership, management and strategic capabilities essential to achieve global growth and position companies to take advantage when recovery begins. Almost three quarters of HTSMEs (70%) in this study plan to further develop their international markets in the future. Future growth will depend on the ability of firms to improve their productivity and competitiveness and to grow exports by competing successfully in international markets. Pooling resources through inter-firms collaborations is one possible route to achieve cost savings. However, both support agencies and businesses need to be clear on the differentiation between ‘network’ and ‘networking’. Chell and Baines (2000, p. 196) distinguish the noun ‘network’, the verb ‘to network’, and the participative form ‘networking’. The latter is denoted as the actions of formulating, developing and maintaining contact with actors. Neergaard (2005, p. 259) associates networking with the actor’s behaviour and its ability and inclination to form relationships. Based on these distinctions, Tang (2009) believes that a firm’s networking behaviour precedes and preconditions its network relationships and network position, which in turn determine the effects of the networks on its business activities and outcomes. As mentioned in chapter three, firms are more likely to collaborate in turbulent times. In what could be considered turbulent economic times, firms and agencies are turning towards networks as a potential option for firm survival and growth (for example, rural area business networks and Business Network Ireland). Against the background of this research, caution is given against taking a one-size-fit all view of networks, and also to allow for the possibility that firms may need support with networking before a network may reap any rewards.

8.3 LIMITATIONS

The findings presented in this thesis need to be considered in light of the limitations of this study. The research was confined to a single industry and needs replication in other global contexts as the importance of network relationships can vary depending on industry sector and country (Johansson & Vahlne 1990). As outlined in earlier chapters, 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. 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). The study focused on the role of networks in the SME context, and it has been pointed out that inter-firm networks may deeply influence the internationalisation of SMEs, but may not apply to large and internationalized firms (Bell & Young 1998). Furthermore, this study followed the approach of Fahy (2002), and Hall (1992) in asking CEOs or their equivalents to rate the relative importance of networks and resources. As such the study is limited to the views of these single informants, but, as stated earlier, it is felt that these key informants are best placed to make an overall judgement of both the firm's networks resources and its performance levels.

Similar to Goerzen (2007), this study adopted the mainstream view that firms are fundamentally concerned with economic results (Penrose 1952; Fama & Jensen 1983), a limitation of this research may be that this definition is too narrow, particularly for these high technology firms, who may be more interested in what Jones (2001) referred to earlier as the precompetitive development of technology. Although this research defined performance using several accounting-based measures, it is widely recognized that many firms pursue multidimensional goals and that firms should not be viewed as simply profit-making entities. Future research could examine these alternative concepts of performance to determine whether they have a role in the relationships under study. Furthermore, certain factors such as culture, physical distance, etc., create conditions under which network relationships may be less beneficial; only further comparative study will resolve this empirical question.

As mentioned in section 8.1 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 (chapter six) were used in analysing the results of this study. As outlined in table 6.9 chapter six, the values for the Composite Reliability ranged from 0.65 to 0.91, which exceeds Bagozzi and Yi's (1988) recommended minimum level of 0.60. In terms of Average Variance Extracted (AVE), one of the ten constructs exceeded the 0.50 guideline and eight of the constructs are between 0.40 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 operationalising 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.

This study examined the networking capabilities and international performance of SMEs 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 SMEs’ domestic as well as international business activities.

8.4 DIRECTIONS FOR FUTURE RESEARCH

Possible avenues for future research are outlined here under the following headings: methodological, theoretical, empirical and industrial.

8.4.1 Methodological

As mentioned earlier in this thesis, the unit of analysis for this study is at the level of the firm, a significant amount of the literature, and in particular the entrepreneurship literature deals with the role of the individual /entrepreneur in the strategic actions of the firm. Hite (2005) refers specifically to the evolution of relationally embedded network ties and suggest that

entrepreneurial action can influence both opportunity discovery and resource mobilization. Networking capability at the individual level could therefore, be a fruitful area for further research.

Longitudinal research was mentioned as a means of addressing the shortcomings of a cross sectional study. In the context of networks, Ballard et al (2008) caution that the role of time in measuring group and team temporality constitutes more than a methodological issue – it is also a theoretical question. They invite scholars to take into account both event-based (epochal) and clock-based (fungible) times in the design, coding, and analysis phases of group research. However, there are some potential benefits, for example, Baum et al (2000) tracks start-ups' differential performance for up to five years, and follows Stinchcombe's (1965) imprinting arguments simply long-lasting—perhaps permanent—effects of founding conditions. Baum et al (2000) argues that by configuring effective alliance networks at founding, start-ups access social, technical, and commercial competitive resources that normally require years of operating experience to accumulate, small firms buffer themselves from hazards typically faced by new firms and sowing seeds of future opportunities to develop their alliance networks. Start-ups that fail to configure effective alliance networks at founding, in contrast, are likely to suffer conditions of resource scarcity, forced to rely on more peripheral resources, and relegated to the periphery of the industry. As a result, efforts to shift from organizing to operations are hampered, employees have few chances or incentives to invest in learning and refining organisation- specific routines, and recovery from such initial deprivations is taxing. Consequently, it is possible that firms that fail to configure effective alliance networks at the time they are founded will be inferior competitors at every age. Future research to investigate these relationships could also be carried out by undertaking in-depth case based research to fully understand the interdependent nature of these relationships and how they evolve over time.

The study measured the direct effects of networking capability 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 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 hi-

tech exports. The estimation of these network impacts on exports in different destinations, allowed a clear understanding of which of these hi-tech external networks are important in achieving greater performance in distant markets as compared to proximate markets.

Conventional measurement practice in marketing and business research is based upon reflective measurement, whereby observed measures (indicators) are assumed to reflect variation in latent constructs (Diamantopoulos 2008). Thus, the direction of causality is assumed to run from the construct to the indicators and, hence, changes in the construct are expected to be manifested in changes in all indicators comprising a multi-item scale (Edwards & Bagozzi 2000). An alternative measurement approach that has been recently gaining increasing attention uses formative indicators. Under this approach, changes in the indicators are assumed to cause variation in the construct rather than the other way round. In other words, the indicators form or determine the construct and the latter is modelled as a (typically linear) combination of its indicators plus a disturbance term (Bollen 1989). This approach merits consideration for future research endeavours as an alternative modelling approach known as Partial Least Squares (PLS) has been developed to avoid some of the limitations of sample size and assumption of normality associated with other SEM tools such as LISREL, AMOS and EQS (Hulland 1999).

8.4.2 Theoretical

Extending research into the role of trust may prove beneficial in subsequent studies, Zaheer and Zaheer (2006) state that specifically, systematic differences in the cultural and institutional origins of trust in business relationships that manifest themselves in international collaborations need to be taken into account in studying or designing organisation governance arrangements and in decisions about investments in trust-building. International management trust researchers would do well to consider integrative emic-etic approaches (Morris et al. 1999), such as the exemplar provided by Gibson and Zellmer-Bruhn (2001). Researchers could, using similar methodologies, identify the differences in the meaning of trust across different national cultural contexts, and relate them to differences in national cultures or institutions. Researchers may thereafter try to decompose different trust concepts across national cultural contexts and analyze the components of trust. Here, trust may be composed of entirely different elements (emic), or might display some overlap in components or their relative weights (emic-etic). In the US context, for example, Zaheer et al (1998) found that

trust was a complex construct, composed of reliability, predictability, and fairness. It is unlikely that the same dimensions would constitute the trust construct across different cultures, or that these dimensions would carry the same weights. Researchers therefore need to consider international collaborations with partners from different institutional and cultural bases of trust. They would need to study the role that trust asymmetry plays in the functioning and performance of international collaborations, and how the asymmetry is best resolved, depending on its degree and nature. Fang et al (2008, p. 86) contended that trust provides the motivation to act, but other elements may encourage or discourage a person from actually translating that motivation into behaviour. Hence, there may be moderating variables worthy of consideration in further research into the role of trust in inter-organisational settings such as culture.

Another possible avenue for further research is to investigate possible differences between poor and high performing companies. Goerzen (2007) found that poorer-performing firms have a much greater tendency to enter into international joint ventures and that these alliances typically have a greater number of partners. For example, better-performing firms in low technical uncertainty environments have 5.8 international joint ventures on average as compared to poorer-performing firms in the same environments, which have an average of 7.5 international joint ventures. These figures indicate that poorer performance is associated with a greater propensity to enter into joint ventures as compared to better-performing firms in low technical uncertainty markets. Further, better-performing firms across technological environments appear to have fewer partners per venture. These figures suggest that better-performing firms are less likely to enter into joint equity alliances and, when they do, they tend to assemble smaller partnership teams. This may indicate that better-performing firms, regardless of the environmental context in which they operate, place a greater emphasis on the exploitation of internal resources and capabilities.

Further research on relationship initiation is also suggested, specifically the role of trade fairs, which was merely referred to in the network initiation construct of this study. However, previous research (Evers & Knight 2006) revealed how small firms (mainly in the food sector) use trade shows as a social context for acquiring foreign market knowledge embedded in these network, for self-promotion, and for entering foreign markets by identifying foreign exchange partners directly or through third party referrals. Loane et al (2008) contends that

establishing such networks via conventions or international trade fairs can be very effective but costly.

The findings of this research lead us to review our current thinking on networks, particularly in the context of HTMEs. Taking another perspective on the matter, the following question arises: should the research focus turn to why networks do not work? Kale et al (2002) suggested that network/alliance outcome and failure can be attributed to a number of factors, including: lack of strategic fit in terms of complementary resources (Harrigan 1985), lack of organisational fit in terms of compatible cultures, decision-making processes, and systems (Kale et al. 2000), lack of trust (Arino & De la Torre 1998), inappropriate choice of governance structure (Williamson 1985; Hennart 1988), inability to manage conflict (Doz & Hamel 1998), lack of adaptable inter-organisational exchange processes (Zajac & Olsen 1993), impact of sudden major environmental shocks (Mitchell & Singh 1996). There is also some evidence that network or alliance failure is often tied to a lack of experience on the part of the firm with respect to forming and managing alliances. In fact, previous research suggests that one of the most important determinants of network or alliance success (and on a firm's ability to form new alliances) is prior and/or ongoing alliance experience (Fiol & Lyles 1985; Child & Yan 1999). Simonin (1997) found that greater alliance experience is linked with firms' abilities to effectively select partners, manage conflicts, etc. Overall, although many of these studies suggest 'prior experience matters,' they are basically silent with regard to how prior experience translates into a capability.

8.4.3 Empirical

From an empirical perspective, these new results in this study provide the basis for various types of further refinement of the scales. These include: a study to validate and extend the scale in various corporate and industry contexts. In addition, the existing scale was developed in the context of export performance networks. Extensions and generalisations of the scale are required for different industry and network contexts, including areas such as technological innovation, service innovation etc. To deal with the possibility of respondent fatigue, research is required to develop and validate a shorter form of the scale that is more amenable for use as part of research studies focusing on other issues as well as for use by firms in assessing diagnosing their own levels of network competence. The current set of items is comprehensive but time consuming to administer, resulting in respondent fatigue and

limiting scope for additional questions. A shorter version of the questionnaire could be developed on test samples and then validated in an industry sample.

The scale also needs validating and examining in other cultural contexts. Versions of the questionnaire need to be developed in other languages and tested in different cultural contexts. It would be interesting to determine if there are any national or cultural as well as industry difference in this core competence of the firm. Replication is an important part of theory development and it is surprising few studies deal with replications (Ritter et al. 2002). Based on Brown and Gaulden (1984), Pitt et al (1996) points out that it is not absolutely essential that replications of studies be clones of the original studies, as variation may add new insights and add to the development of theory.

With regard to validation, there is a need to validate the constructs using additional mechanisms. In this study a direct measure of network capability to validate the scale was used. However, all the studies so far have relied on one respondent from each organisation to assess a firm. This limitation may be overcome in two ways. Firstly, by using multiple respondents in each firm, including people drawn from different areas (such as marketing, purchasing, research and development), and different management levels (top, middle and lower management). This will give a better picture from inside a firm. Second, network studies in which partners judge the network capability of their counterparts can contribute to our understanding of the perceived networking capability of a firm by other actors. As has been shown in studies of market orientation, the correlations between self-perceptions and others' perceptions can be problematic (Ritter et al. 2002).

8.4.4 Industrial

From an industry perspective, a clear structure and classification of the different aspects of convergence is clearly required, so that academic scholars are able to address the right process with the right concepts (Nyström & Haklin 2005). The Green Paper on Convergence (European Commission, 1997:1) defines convergence as “the ability of different network platforms to carry essentially similar kinds of services or the coming together of consumer devices such as the telephone, television and personal computer”. Convergence occurs at different stages, namely (1) technology and network platforms, (2) industry alliances and mergers, (3) services and markets and finally, (4) policy and regulation. The definition of convergence thus implies several different dimensions to the concept. Convergence can be

addressed as industry convergence, or as service convergence, network convergence, infrastructure convergence and so forth. For instance, industry convergence is a separate process from technology convergence, even though it is clear that both processes are related to each other. Articles written on the topic of convergence use the term without a systematic reflection of the definition they used (Lind 2004). A few exceptions do reflect upon the definition of convergence, such as Greenstein and Khanna (1997), Pennings and Puranam (2001) and Stieglitz (2003). Most articles on the topic have, however, taken an industry perspective. Steinmueller (2000) argues that after two decades of movement toward convergence, the result is ambiguous. This is due to the *ex ante* definition of convergence, which was an idealization that was necessary to explain the implications of market developments opened by technological opportunity.

8.5 OVERALL CONCLUSION

This study set out to explore a network perspective on international business. The extant literature in both disciplines was reviewed in order to provide a theoretical basis for the research. Emerging out of the literature, a new model of network capability and international performance was conceptualised. The conceptual model has its origins in the dynamic capability field as it was developed around the notion of configurations of resources, operating routines and performance outcomes.

The telecommunications sector in Ireland was chosen as the industry setting for this research. 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. The empirical data was collected from April to May 2008, and even in the time since collecting the information and the final submission of this thesis, this already dynamic industry has experienced changes. Some of the most recent changes in the Irish context include: a merger between Smart Telecom and Digiweb, broadband operators Amocom and Callidus merging to form Ripple Communications, and the proposed takeover of Eircom by Singapore Technologies Telemedia (STT). On the technological changes, there is now a move towards digital TV with the upgraded RTÉ network, and Chorus NTL now offering digital TV and broadband services up to 100 megabits per second (MBPS). Also, on network upgrades, there is now a rollout of the 4G and WiMax (Worldwide Interoperability for Microwave Access) networks. These changes are notwithstanding the economic challenges that are impacting all

aspects of business and society, resulting in a number of companies in this industry going into liquidation. A survey conducted since 2008 in this sector, may reveal a very different set of results than those presented here.

This study makes a solid contribution to the international business literature by providing evidence of a collaboration-performance relationship. The results therefore resonate with calls for research on the linkages between networks and firm performance. Past research has failed to examine networking activity in a unifying framework incorporating antecedent factors and performance outcomes. Furthermore, while much is known about the role of networking as a response to perceived uncertainty and its impact on firm performance in general, and in SMEs' performance in domestic settings, the relationships between networking and international performance is under researched. Consistent with some of the previous limited research on the topic, there was limited evidence of a direct relationship between the two in this study also.

These findings have important practical and policy implications. The effects of networks on internationalisation should be analysed in terms of whether the potential strengths of networks match the requirements for foreign business development of HTSMEs. Networks and networking have resource implications. Thus, it is necessary to identify and review the resources that are critical to the international performance of their firms and develop and implement business strategies building on those resources in order to enhance the likelihood of international success. Against the background of this research, caution is given against taking a one-size-fit all view of networks, and also to allow for the possibility that firms may need support with networking before a network may reap the desired outcomes.

Finally, despite the limitations outlined, it is believed that this study has extended prior research by contributing some new valuable insights into the network internationalisation literature. It also provided empirical support for some theoretical propositions advanced in the literature. It is hoped that the conceptual framework proposed and validated in this research forms the basis for future studies of a scholarly nature.

REFERENCES

- Aaby, N. E. and Slater, S. F. (1989) 'Managerial influences on export performance: A review of the empirical literature 1978 – 1988', *International Marketing Review*, 6(4), 53 – 68.
- Abernathy, W.J. and Utterback, J.M. (1978), 'Patterns of innovation in technology', *Technology Review*, 80 (7), 40-47.
- Abrahamson, E. and Fombrun, C.J. (1994), 'Macro cultures: determinants and consequences', *Academy of Management Review*, 19 (4), 728-55.
- Abrahamson, E. and Rosenkopf, L. (1993) 'Institutional and competitive bandwagons: using mathematical modeling as a tool to explain innovation diffusion', *Academy of Management Review*, 18, 487-517.
- Achrol, R. S. and Kotler, P (1999) 'Marketing in the network economy', *Journal of Marketing (Special Issue)*, 63, 146-163.
- Achrol, R.S. (1997) 'Changes in the theory of inter-organisational relations in marketing: toward a network paradigm', *Journal of the Academy of Marketing Science*, 25 (1), 56 – 71.
- Ackoff, R. (1974) *Redesigning the Future*, New York: Wiley and Son.
- Acs, Z., Morck, R. J., Shaver, J. M. and Yeung, B. (1997) 'The internationalisation of small and medium sized enterprises: a policy perspective', *Small Business Economics*, 9 (1), 7-20.
- Adler, P.S. and Kwon, S.W. (2002) 'Social capital: prospects for a new concept', *Academy of Management Review*, 27(1), 17- 40.
- Afuah, A. (2000) 'How much do your co-opetitors's capabilities matter in the face of technological change?', *Strategic Management Journal*, 21, 387 – 404.
- Agndal, H. and Chetty, S. (2007) 'The Impact of relationships on changes in internationalisation strategies of SMEs', *European Journal of Marketing*, 41 (11/12), 1449-1474.
- Ahuja, G. (2000) 'The duality of collaboration: inducements and opportunities in the formation of inter-firm linkages', *Strategic Management Journal*, 21, 317 – 343.
- Aldrich, H.E. (1975) 'An organisation-environment perspective on cooperation and conflict between organisations in the manpower training system' in Negandki, A. R.,ed., *Interorganisational Theory*, Kent : Kent State University Press, OH, 49 – 70.
- Aldrich, H.E. (1979), *Organisations and environments*, Englewood Cliffs: NJ.Prentice Hall.
- Aldrich, H.E. and Reese, P.R. (1993) 'Does networking pay off?' in Churchill, N.C., Birley, S., Doutriaux, J., et al.,eds., *A Panel Study of Entrepreneurs in the Research Triangle in Frontiers of Entrepreneurship Research*, Massachusetts, Wellesley, 325–339.
- Aldrich, H.E. and Zimmer, C. (1986) 'Entrepreneurship through social networks' in Smilor R and D Sexton(EDS) *the Art and Science of Entrepreneurship*, New York: Ballinger, 3 – 23.
- Al-Khalifa, A. and Morgan, N. A. (1995) 'Export Performance Measurement: A Review and Suggested Directions' *Marketing Theory and Applications*, Chicago IL: American Marketing Association, 6, 313 – 318.
- Allen, R. C. (1983) 'Collective invention' *Journal of Economic Behaviour and Organisation*, 4(1), 1-24.
- Alvarez, S.A. and Barney, J.B. (2001) 'How can entrepreneurial firms really benefit from alliances with large firms?', *Academy of Management Executive*, 15, 139-48.
- Amarach, (2008) *Life Online Survey*, Dublin, Ireland: Amarach Research,
- Amburgey, T.L.and Rao, H., (1996) 'Organisational ecology: past, present, and future directions' *Academy of Management Journal*, 39 (5), 1265–1286.
- Amit, R. and Zott, C. (2001). 'Value creation in e-business', *Strategic Management Journal*,

22, 493–520.

Anand, B. N. and Khanna, T. (2000) 'Do firms learn to create value? The case of alliances', *Strategic Management Journal*, 21, 295 – 315.

Andersen, O. (1993) 'On the internationalisation process of firms: a critical analysis', *Journal of International Business Studies*, 24(2), 209–231.

Andersen, O. (1996) 'The international market selection: A relationship marketing approach', Paper presented at the *Academy of International Business Conference*, Banff, September 26-29.

Andersen, O. (1997) 'Internationalization and market entry mode: A review of theories and conceptual frameworks' *Management International Review*, 37, 27–42.

Andersen, O. and Buvik, A. (2002) 'Firms' internationalisation and alternative approaches to the international customer/market selection', *International Business Review* 11, 347 – 363.

Anderson, J. C. and Gerbing, D. W. (1998) 'Structural equation modeling in practice: a review and recommended two step approach', *Psychological Bulletin*, 103, 411-423.

Anderson, E. (1990) 'Two firms, one frontier: On assessing joint venture performance', *Sloan Management Review* 31:2, 19–30.

Anderson, E. and Gatignon, H. (1986) 'Modes of Foreign Entry: A Transaction Cost Analysis and Propositions', *Journal of International Business Studies*, 17, 1 - 26.

Anderson, E. and Weitz, B. (1989) 'Determinants of continuity in conventional industrial channel dyads' *Marketing Science*, 8(4), 301–323.

Anderson, J. C. and Narus, J. A. (1984) 'A Model of the Distributors Perspective - Manufacturer Working Relationship' *Journal of Marketing*, 48 (4), 42-58.

Anderson, J.C., Hakansson, H. and Johanson, J. (1994) 'Dyadic Business Relationships within a Business Network Context' *Journal of Marketing*, 58, 1-15.

Andersson, P. (2002) 'Connected internationalisation processes: the case of internationalising channel intermediaries', *International Business Review*, 11, 365 - 383.

Andersson, S. and Victor, I. (2003) 'Innovative internationalisation in new firms: born globals –the Swedish case', *Journal of International Entrepreneurship*, 1 (3), 249-75.

Andersson, U, Forsgren, M. and Pedersen, T, (2001) 'Subsidiary performance in multinational corporations: the importance of technology embeddedness', *International Business Review*, 10, 3 – 23.

Annavarjula, M.G. and Beldona, S. (2000) 'Multinationality-performance relationship: A review and reconceptualization', *The International Journal of Organisational Analysis*, 8, 48-67.

Aoki, M. (1998) *Information, Incentive, and Bargaining in the Japanese Economy*, UK: Cambridge University Press.

Argyres, N. (1996), 'Capabilities, technological diversification and divisionalisation', *Strategic Management Journal*, 17, 129-50.

Argyres, N. and Schön, D. (1978) *Organisational Learning: A Theory of Action Perspective*, Reading MA: Addison-Wesley Publishing.

Arino, A. and de la Torre, J. (1998) 'Learning from failure: towards an evolutionary model of collaborative ventures', *Organisation Science* 9(3), 306-325.

Arino, A., de la Torre, J. And Ring, P.S.(2001) 'Relational quality: managing trust in corporate alliances' *Californian Management Review*, 44 (1), 109-131.

Armstrong, J. S. and Overton, T. S. (1977) 'Estimating non-response bias in mail surveys' *Journal of Marketing Research*, 14 (Aug), 396-402.

Ashby, W, and Ross (1960) *Design for a Brain*, London: Chapman and Hall.

- Ashkenas, R., Ulrich, D., Jick, T., and Kerr, S. (1995) *The Boundaryless Organisation*. San Francisco: Jossey-Bass.
- Astley, W. G. and Fombrun, C. J. (1983) 'Collective strategy: social ecology of organisational environments', *Academy of Management Review*, 8 (4), 576 – 587.
- Atkin, D. (2002) 'Media convergence' In Lin, C. and Atkin, D., eds., *Communication Technology and Society*. Cresskill, NJ: Hampton Press, 23–41.
- Aulakh, P.A., Kotabe, M. and Sahay, A. (1996) 'Trust and performance in cross-border marketing partnerships: a behavioral approach', *Journal of International Business Studies* 27(5), 1005–1032.
- Australian Manufacturing Council [AMC]. (1990) 'Networking and Industry Development', Discussion Paper, November
- Autio, E., Sapienza, H. and Almeida, J. (2000) 'Effects of age at entry, knowledge intensity, and imitability on international growth', *Academy of Management Journal*, 43 (5), 909-1024.
- Awuah, G. B. (2001) 'A firm's competence development through its network of exchange relationships', *Journal of Business and Industrial Marketing*, 16(7), 574 – 599.
- Awuah, G. B. (2007) 'A professional services firm's competence development' *Industrial Marketing Management* 36, 1068 – 1081.
- Axelsson, B. and Easton, G. eds. (1992) *Industrial Networks: A View to Reality*, London: Routledge.
- Axelsson, B., Johanson, J. (1992.) 'Foreign market entry – the textbook vs. the network view' in, Axelsson, B., Easton, E., eds., *A New View of Reality*, chapter. 12.
- Babakus, E., Yavas, U. and Haahti, A. (2006) 'Perceived uncertainty, networking and export performance, a study of Nordic SMEs', *European Business Review*, 18 (1), 4–13.
- Bachmann, R. (2001), 'Trust, power and control in trans-organisational relations', *Organisation Studies*, 22 (2), 337-65.
- Badaracco, J. L. (1991) *The Knowledge Link*, Boston MA: Harvard Business School Press.
- Bagozzi, R. P. (1994) 'Measuring in marketing research; basic principles of questionnaire design' in Bagozzi, R. P., ed., *Principles of Marketing Research*, Cambridge MA: Blackwell Publishers.
- Bagozzi, R. P. and Baumgartner, H. (1994) 'The evaluation of structural equations models and hypothesis testing' in Bagozzi, R. P., ed., *Principles of Marketing Research*, Cambridge, MA: Basil Blackwell.
- Bagozzi, R. P. and Edwards, J. R. (1998) 'A general approach for representing constructs in organisational research' *Organisational Research Methods*, 1(1), 45- 87.
- Bagozzi, R.P. and Yi, Y, (1988) 'On the evaluation of structural equation models', *Journal of Academy of Marketing Sciences*, 16 (Spring), 74-94.
- Baker, W. E. (1992) 'The network organisation in theory and practice' in Nohria, N. and Eccles, R. G., eds., *Networks and Organisations: Structure, Form and Action*, USA: Harvard Business School Press.
- Baldauf, A., Cravens, D. W. and Wagner, U. 2(000) 'Examining Determinants of Export Performance in Small Open Economies' *Journal of World Business* 35 (1), 61-79.
- Baldwin, J. and Gellatly, G. (1998) 'Are there high-tech industries or only high-tech firms? Evidence from new technology-based firms' *Analytical Studies Branch*, Micro-Economic Analysis Division, Statistics Canada, No. 11F0019MPE No. 120.
- Baldwin, S., McVoy, S. and Steinfield, C., (1996) *Convergence: Integrating Media, Information and Communication*. USA: Sage Publications.

- Ball, D. and Culloch, W. Mc. (1993) *International Business – Introduction and Essentials*, Fifth Edition, USA: Von Hoffman Press.
- Ballard, D. I., Tschan, F. and Waller, M J (2008) ‘All in the timing- considering time at multiple stages of group research’ *Small Group Research*, 39(3), 328-351.
- Bannock, G. (1981) *The Economics of Small Firms: Return from the Wilderness*, Oxford, England: Basil Blackwell.
- Bank of Ireland, (2005) *Survey of Irish SMEs* (online)
http://www.bankofireland.com/press_room/latest_releases/2005/press_releases_news_150720_18.html, accessed on 26/07/09.
- Barabasi, A.L. (2002). *Linked: The New Science of Networks*. Cambridge: Perseus Publishing.
- Barkema, H. G., Bell, J.H.J and Penning, J. M. (1996) ‘Foreign entry cultural barriers and learning.’ *Strategic Management Journal*, 17(2), 151 – 166.
- Barkema, H.G. and Vermeulen, F. (1998) ‘International expansion through start-up or acquisition: a learning perspective’, *Academy of Management Journal*, 41 (1), 7-26.
- Barnes, J. G. (1991), *Research for Marketing Decision Making*, Toronto: Mc Graw Hill.
- Barney, J. (1991) ‘Firm resources and sustained competitive advantage’ *Journal of Management*, 17(1), 99–120.
- Barney, J. B. and Ouchi, W. (1983) ‘Information Costs and Organisational Governance’ Unpublished Manuscript (University of California at Los Angeles).
- Baron, J.M., Hannan, M.T. and Burton, M.D. (1999) ‘Building the iron cage: determinants of managerial intensity in the early years of organisations’. *American Sociological Review*, 64, 527-47.
- Baron, M.A. and Markman, G. D. (2003) ‘Beyond social capital: the role of entrepreneurs’ social competence in their financial success’ *Journal of Business Venturing*, 18 (1), 41-60.
- Barrett, N. I. and Wilkinson, I. F. (1986) ‘Internationalisation behaviour: management characteristics of Australian manufacturing firms by level of international development’ in Turnbull, P.W. and Paliwoda, S.J., eds., *Research in International Marketing*, London: Croom Helm, 213-233.
- Baruch, Y. (1997) ‘High tech organisation—what is it, what it isn’t’, *International Journal of Technology Management*, 13(2), 179–195.
- Bates, B., Albright, K. and Washington, K. (2002) ‘Not your plain old telephone: new services and new impacts’ in Lin, C., Atkin, D., eds., *Communication Technology and Society*, Cresskill, NJ: Hampton Press, 91–124.
- Bates, T (1985) ‘Entrepreneur human capital endowments and minority business validity, *Journal of Human Resources*, 20, 540-554.
- Batonda, G. and Perry, C. (2003) ‘Approaches to relationship development processes in inter-firm networks’ *European Journal of Marketing*, 37(10), 1457-1484.
- Baum, J. A.C., Calabrese, T. and Silverman, B. S. (2000) ‘Don't go it alone: Alliance network composition and start-up's performance in Canadian biotechnology’, *Strategic Management Journal*, 21 (3), 267-294.
- Baumgartner, H. and Homburg, C. (1996) ‘Applications of structural equations modelling in marketing and consumer research: a review, *International Journal of Research in Marketing*, 13(2), 139-162.
- Bausch, A. and Krist, M (2007) ‘The effect of context related moderators on the internationalisation-performance relationship: evidence from meta analysis’, *Management International Review*, 47(3), 1 – 29.

- Bazeley, P. (2004), 'Issues in mixing qualitative and quantitative approaches to research', in Buber, R. and Gadner, J., eds., *Applying Qualitative Methods to Marketing Management Research*, Basingstoke: Palgrave Macmillan, 141-56.
- Beamish, P. (1987) 'Joint ventures in LDCs: partner selection and performance' *Management International Review*, 27, 23-37.
- Beamish, P. (1990) 'The Internationalisation process for smaller Ontario firms: a research agenda, in Rugman, A. M., ed., *Research in Global Strategic Management - International Business Research for the Twenty First Century: Canada's New Research Agenda*, Greenwich: JAI Press Inc, 77 – 92.
- Beamish, P. and Munro, H. (1985) 'Export characteristics of small Canadian manufacturers, *Journal of Small Business and Entrepreneurship*, 3 (1), 30 – 36.
- Beamish, P., Craig, R. and McLellan, K. (1993) 'The performance characteristics of Canadian versus UK exporters in small and medium sized firms', *Management International Review*, 2, 121-137.
- Beesley, M. E. and Littlechild, S. C (1983) 'Privatisation: principles, problems and priorities'. *Lloyds Review*, 149.
- Bell, J. (1995) 'The internationalisation of small computer software firms: a further challenge to stage theory'. *European Journal of Marketing*, 29(8), 60–75.
- Bell, J., Crick, D. and Young, S. (1998) 'A holistic perspective on small firm growth and internationalisation' paper presented at *Academy of International Business Conference*, City University Business School.
- Bell, J., McNaughton, R., Young, S., and Crick, D. (2003) 'Towards an integrative model of small firm internationalisation', *Journal of International Entrepreneurship*, 1(4), 339–362.
- Benson-Rea, M. and Wilson, H. I. M. (1994) 'Networks in New Zealand, Final Report for the Ministry of Commerce' University of Auckland, New Zealand.
- Bentler, P. M. (1990) 'Comparative fit indexes in structural models' *Psychological Bulletin*, 107(2), 238-246.
- Bentler, P.M. and Chou, C. (1987) 'Practical issues in structural modeling' *Sociological Methods and Research*. 6:78–117.
- Berghman, L., Mattysens, P. and Vandenbempt, K. (2006) 'Building competences for new customer value creation: an exploratory study', *Industrial Marketing Management*, 35, 961 – 973.
- Bernardina, L. and Jones, M. V. (2008) 'The internationalisation of high technology SMEs in Portugal: a resource based perspective' paper presented at the *Academy of International Business UK and Ireland Chapter*, 35th Annual Conference, University of Portsmouth, UK, March 28 – 29th.
- Bernardina, L. and Jones, M. V. (2009) 'Contractual arrangements and performance in foreign markets; the case of high technology SMEs in Portugal' paper presented at the *Academy of International Business UK and Ireland Chapter*, 36th Annual Conference, University of Glasgow, Scotland, April 1-3rd.
- Best, M. (1990), *The New Competition*, MA: Harvard University Press.
- Bilkey, W.J. (1978), "An attempted integration of the literature on the export behaviour of firms", *Journal of International Business Studies*, Vol. 9 (1), pp. 33-46.
- Bilkey, W.J. and Tesar, G. (1977) 'The export behaviour of small –sized Wisconsin manufacturing firms', *Journal of International Business Studies*, Spring/Summer, 93-98.
- Birkinshaw, J. (1997) 'Entrepreneurship in multinational corporations: The characteristics of subsidiary initiatives' *Strategic Management Journal*, 18, 207–229.

- Birkinshaw, J. (1999) 'The determinants and consequences of subsidiary initiative in multinational corporations', *Entrepreneurship Theory and Practice*, 9–36.
- Birkinshaw, J. and Fry, N. (1998) 'Subsidiary initiatives to develop new markets', *Sloan Management Review*, 39, 51–61.
- Birkinshaw, J., Holm, U., Thilenius, P. and Arvidsson, N. (2000) 'Consequences of perception gaps in the headquarter-subsidiary relationship' *International Business Review*, 9, 321–344.
- Blankenburg Holm, D. and Hohanson, J. (1997) 'Business network connections and the atmosphere of international business relationships', in., eds., Bjorkman, I. and Forsgren, M. *The Nature of the International Firm*, Handelshogskolens Forlag.
- Blankenburg Holm, D., Eriksson, K. and Johanson, J. (1996) 'Business networks and cooperation in international business relationships' *Journal of International Business Studies*, 27(5), 1033–1053.
- Blankenburg Holm, D., Eriksson, K. and Johanson, J. (1999) 'Creating value through mutual commitment to business network relationships', *Strategic Management Journal*, 20, 467–486.
- Blankenburg, D (1995) 'A Network Approach to Foreign Market Entry', in., eds., Wilson, D.T. and Moller, K, *Business Marketing: An Interaction and Network Perspective*, Dordrecht: Kluwer Academic.
- Blau, J.R. and Alba, R.D. (1982), "Empowering nets of participation", *Administrative Science Quarterly*, 27, 363-78.
- Blau, P. M. and Schwartz, J. E. (1984) *Crosscutting Social Circles*, New York: Academic Press.
- Blau, P.M. and Scoenherr, J. E. (1971) *The Structure of Organisations*, New York: Basic Books.
- Blomstermo, A., Eriksson, K., Lindstrand, A. and Sharma, D. D. (2004) 'Perceived usefulness of network experiential knowledge in the internationalizing firm', *Journal of International Management*, 10,355-373.
- Bloodgood, J.M., Sapienza, H.J. and Almedia, J.G. (1996), 'The internationalisation of new high-potential US ventures: antecedents and outcomes', *Entrepreneurship Theory and Practice*, 20 (4), 61-76.
- Boddewyn, J. (1997) 'Is International Business a Distinct Field of Inquiry? No and Yes, But Life Goes On', in Toyne, B. and Nigh, D., eds., *International Business: An Emerging Vision*, University of South Carolina Press: Columbia, 639-644.
- Boddewyn, J.J. (1999) 'The Domain of International Management' *Journal of International Management* 5 3 – 14.
- Bollen, K.A. (1989) *Structural equations with latent variables*, New York: Wiley.
- Bollen, K. and Lennox, R. (1991) 'Conventional wisdom on measurement: a structural equation perspective', *Psychological Bulletin*, 110(2), 305-314.
- Boltanski, L. and Chiapello, E. (1999) *Le Nouvel Esprit du Capitalisme*, Gallimard: NRF Essais.
- Bonaccorsi, A. (1992) 'On the relationship between firm size and export intensity' *Journal of International Business Studies*, 23(4), 605–635.
- Bonner, J. M., Kim, D. and Cavusgil, S. T. (2005) 'Self perceived strategic network identity and its effects on market performance in alliance relationships', *Journal of Business Research*, 58, 1371-1380.
- Borys, B. and Jemison, D. (1989) 'Hybrid arrangements as strategic alliances: theoretical issues in organisational combinations', *Academy of Management Review*, 14, 234-249.

- Boter, H. and Holmquist, C. (1996) 'Industry characteristics and internationalisation processes in small firms', *Journal of Business Venturing*, 11(6), 471–487.
- Bourqui, M. (1990) 'Relations Interorganisationnelles et relations interpersonnelle: l'impact des reseaux sur l'appriche concurrnetielle de projets,' *Revue Francaise de Marketing*. 127/128, 51-61.
- Bradley, F. (1995) *International Marketing Strategy*, Prentice Hall, London.
- Bradach, J.L. and Eccles, R.G. (1989) 'Markets versus hierarchies: from ideal types to business performance through innovation programmes", *Small Business Economics*, 13,219-34.
- Brass, D J., Galaskiewicz, J. Greve, H. R. and Tsai, W, (2004), 'Taking stock of networks and organisations: a multilevel perspective', *Academy of Management Journal*, 47(6), 795-817.
- Brazeal, D. V. and Herbert, J. F. (1999) 'The Genesis of Entrepreneurship', *Entrepreneurship Theory and Practice*, 23(3), 29-45.
- Bridgewater, S. (1999) 'Networks and internationalisation: the case of multinational corporations entering Ukraine' , *International Business Review*, 8, 99 – 118
- Brockmann, E. and Anthony, W. (1998) 'The influence of tacit knowledge and collective mind in strategic planning', *Journal of Managerial Issues*, 10 (2), 204-222.
- Brooke, N. and Remmers, H. L. (1977) *The International Firm: A Study of Management Across Frontiers*, London.: Pitman Publishing Ltd.
- Brouthers, K. D. and Bamossy, G. J. (2006) 'Post-formation processes in Eastern and Western European Joint Ventures' *Journal of Management Studies*, 43, 203–229.
- Brown, B. and Butler, J. E. (1995) 'A study of the entrepreneurial networks in the US wine industry', *Journal of Small Business Management*, 33(3) July.
- Brown, J. S. (1997) 'Research that reinvents the corporation' in Tushman, M. and Anderson, P.,eds., *Managing Strategic Innovation and Change*, New York and Oxford: Oxford University Press.
- Brown, J., and Duguid, P. (1991) 'Organisational learning and communities of practice: Toward a unified view of working, learning and innovation' *Organisation Science*, 2, 40–57.
- Brown, P. and Bell, J. (2000) 'Industrial clusters and small firm internationalisation' Proceedings of the 27th Annual Conference, UK Chapter, *Academy of International Business: The Multinational in the Millennium: Companies and Countries, Changes and Choices*, University of Strathclyde, 14th–15th, April, University of Strathclyde, Glasgow, Scotland, 73–96.
- Brown, R. and David, C. (1990) 'Strategy and performance in British exporters', *Quarterly Review of Marketing*, (spring): 1-6.
- Brown, S. W. and Gaulden, C. F. Jr. (1984) 'Replication and theory development' in Brown, S. W. and Fisk, R. P.,eds., *Distinguished Essays in Marketing Theory*, New York: John Wiley & Sons.
- Browne, M. and Cudeck, R, (1989) 'Single sample cross validation indices for covariance structures', *Multivariate Behavioural Research*, 24, 445-455.
- Browne, M. and Cudeck, R. (1993) 'Alternative ways of assessing model fit' in Bollen, K. A. and Long, J. S., eds., *Testing Structural Equations Model*, Newbury park, CA: Sage Publications.
- Browne, S. (1996)' Art or science? Fifty years of marketing debate', *Journal of Marketing Management*, 12 (4) 243-268.
- Browning, L.D., Beyer, J.M., and Shetler, J.C. (1995) 'Building cooperation in a competitive industry: SEMATECH and the semiconductor industry', *Academy of Management Journal*, 38, 113-151.

- Bruderl, J., Preisendorfer, P. and Ziegler, R. (1992) 'Survival chances of newly funded business organisations', *American Sociological Review*, 57, 227-242.
- Brunsson, N. and Hägg, I. (1992) *The Power of the Market*, Stockholm: SNS Publications.
- Brush, C.G. (1992) 'Factors Motivating Small Companies to Internationalise: The Effect of Firm Age', Unpublished Dissertation, Boston University, Boston.
- Buckley, P. J. (1989), 'Foreign direct investment by small and medium sized enterprises: the theoretical background', *Small Business Economics*, 1, 89 – 100.
- Buckley, P. J. and Casson, M. (1976) *The Future of the Multinational Enterprise*, London: Macmillan.
- Buckley, P. J. and Casson, M. (2002) *The Future of The Multinational Enterprise*, 25th anniversary ed. Palgrave Macmillan: New York, [originally published in 1976].
- Buckley, P. J. and Ghauri, P. (2004) 'Globalization, economic geography, and the strategy of multinational enterprises', *Journal of International Business Studies* 35, 81-98.
- Buckley, P. J., Newbould, G. D. and Thruwell, J. (1979), 'Going international – the foreign direct investment behaviour of smaller UK firms, in Mattsson, L. G. and Wiedersheim-Paul, F. *Recent Research on the Internationalisation of Business*, Uppsala, Sweden.
- Buckley, P.J. (2002) 'Is the International Business Research Agenda Running Out of Steam?', *Journal of International Business Studies*, 33 (2), 365-373.
- Buckley, P.J., Newbould, G.D. and Thurwell, J. C. (1979) *Foreign Direct Investment by Smaller UK Firms: The Success and Failure of First-time Investors Abroad*, London: Macmillan.
- Burck, G. (1964) 'Management will never be the same again' *Fortune*, August, 125 - 126.
- Burgel, O. and Murray, G.C. (2000), 'The international market entry choices of start-up companies in high-technology industries', *Journal of International Marketing*, 8 (2), 30-63.
- Burns, T. and Stalker, G. (1961), *The Management of Innovation*. Tavistock: London.
- Burt, R. S. (1992) 'The social structure of competition' in Nohria, N. and Eccles, R. G., eds., *Network and Organisations: Structure, Form, and Actions*, Boston. MA: Harvard Business School Press.
- Burt, R.S. (1980) 'Autonomy in a Social Topology', *American Journal of Sociology*, 85, 892 – 925.
- Busenitz, L. W., and Barney, J. B. (1997) 'Biases and heuristics in strategic decision-making: Differences between entrepreneurs and managers in large organisations', *Journal of Business Venturing*, 12: 9-30.
- Butler, J.K. Jr. (1991) 'Toward understanding and measuring conditions on trust: evolution of conditions of trust inventory' *Journal of Management*, 17 (3), 643-663.
- Buttery, E. M. and Buttery, A. (1992) *Business Networks.*, Melbourne, Australia: Longman Business and Professional
- Byrne, B. M. (2001) *Structural Equation Modeling with AMOS: Basic Concepts, Applications and Programming*, Multivariate Applications Series, Mahwah New Jersey: Lawrence Erlbaum Associates Publishers,
- Calof, J. and Beamish, P.W. (1995) 'Adapting to foreign markets: explaining internationalisation', *International Business Review*, 4 (2), 115-31.
- Calof, J.C. (1994) 'The Relationship Between Firm Size and Export Market Behaviour Revisited' *Journal of International Business Studies* 25(2), 367-387
- Canabal. A. and White, G. O. (2008) 'Entry mode research: past and future' *International Business Review* 17, 267-284.
- Cannon, J.T. (1968), *Business strategy and policy*, New York: Harcourt Brace Jovanovich,

- Caose, R. (1998), *The Firm, the Market and the Law*, in Caose, R., ed., *The Firm, the Market and the Law*, Chicago: University of Chicago.
- Capaldo, A. (2007) 'Network structure and innovation: the leveraging of dual network as a distinctive relational capability', *Strategic Management Journal*, 28, 585 – 608.
- Capar, N. and Kotabe, M. (2003) 'The relationship between international diversification and performance in service firms', *Journal of International Business Studies*, 34, 345–355.
- Capra, F. (2002) *The Hidden Connections*, Doubleday: New York.
- Carmines, E. G. and Zeller, R. A. (1979), *Reliability and Validity Assessment, Quantitative Applications in the Social Sciences Series*, London: Sage Publications.
- Carneiro, J., da Rocha, A and da Silva, J. F. (2006) 'The export performance construct; development of a new measurement model and guidelines for validation' paper presented at the *Academy of International Business Annual Conference*, Beijing, China, June 22 – 26.
- Carrier, C. (1994) 'Intrapreneurship in large firms and SMEs: A comparative study', *International Small Business Journal*, 12(3), 54–61.
- Carson, D. (1990) 'Marketing and Small Firms', *European Journal of Marketing*, 24 (11), 9-12.
- Carson, D. and Coviello, N. (1996) 'Qualitative research issues at the marketing or entrepreneurship interface', *Marketing Intelligence & Planning*, 14 (6), 51-8.
- Carson, D., Cromie, S., McGowan, P., and Hill, J. (1995) *Marketing and Entrepreneurship in SMEs: An Innovative Approach*. Hemel Hempstead: Prentice Hall (International) Ltd.
- Carter, N.M., Brush, C.G., Gatewood, E.J., Greene, P.G. and Hart, M.M. (2003) 'Financing high-growth enterprise: Is gender an issue? In critical junctures in women's economic lives' a collection of symposium papers. Ed. The Centre for Economic Progress, Minneapolis, MN, 45–51.
- Casson, M. (1995) *The Organisation of International Business: Studies in The Art of Economics of Trust*. Vol 2. UK: Edward Elgar Publishing Ltd.
- Castells, M. (1998) *End of Millenium*, Oxford: Blackwell.
- Castells, M. (2000) *The rise of the network society*, 2nd ed. Oxford: Blackwell.
- Cavusgil, S. (1982) 'On the Nature of Decision Making for Export Marketing' in Bush, R.F. and Hunt, S.D., eds., *Marketing Theory: Philosophy of Science Perspectives*, Chicago: American Marketing Association, 117 – 180.
- Cavusgil, S. T. (1980) 'On the Internationalisation Process of Firms', *European Research*, November, 273 – 281.
- Cavusgil, S. T. (1984) 'Organisational characteristics associated with export activities', *Journal of Management Studies*, 21(1), 3–22.
- Cavusgil, S. T. and Zou, S. (1994) 'Marketing strategy-performance relationship: an investigation of the empirical link in export market ventures', *Journal of Marketing*, 58, 1-21.
- Cavusgil, S.T. and Godiwalla, Y. (1982) 'Decision making for international marketing: a comparative review', *Management Decision*, 20, 48 - 57.
- Cavusgil, S.T. and Nevin, J. (1981) 'Internal determinants of export marketing behaviour: an empirical analysis', *Journal of Marketing Research*, 18(1), 114-9.
- Chakravarthy, B. (1986) 'Measuring Strategic Performance', *Strategic Management Journal*, 7, 437-458.
- Chan-Olmsted, S.M. and Jamison, M. (2001) 'Rivalry through Alliances: Competitive Strategy in the Global Telecommunications Market', *European Management Journal*, 19 (3), 317-331.

- Charmaz, K. (1995) 'Between positivism and postmodernism: Implications for methods' *Studies in Symbolic Interaction*, 17, 43–72.
- Chau, R.Y., Morris, M. W. and Ingram, P. (2009) 'Gaunxi vs networking: distinctive configurations of affect and cognition based trust in the networks of Chinese vs American managers', *Journal of International Business Studies*, 40, 490-508.
- Chaudry, S, and Crick, D. (1998) 'Export Information Providers: are they meeting the needs of Sme's?', *Marketing Intelligence and Planning* 16(3), 141 – 149.
- Chell, E. and Baines, S. (2000) 'Networking, entrepreneurship and micro-business behaviour' *Entrepreneurship and Regional Development*, 12 (3), 195-215
- Chen, H. (2005) *Cooperative Performance*, Boca Raton, Florida: Universal Publishers.
- Chen, M. J. (1996) 'Competitor Analysis and Inter-Firm Rivalry: Toward a Theoretical Integration', *Academy of Management Review*, 21 (1) 100-134.
- Chen, M. and Hambrick, D.C. (1995) 'Speed, stealth and selective attack: how small firms differ from large firms in competitive behaviour', *Academy of Management Journal*, 38, 453-82.
- Chetty, S K and Holm, D. B. (2000) 'Internationalisation of small to medium sized manufacturing firms: a network approach', *International Business Review*, 9, 77 – 93.
- Chetty, S. K. (1999) 'dimensions of internationalisation of manufacturing firms in the apparel industry', *European Journal of Marketing* 33(1/2), 121-142.
- Chetty, S. K. and Wilson, H. (2003) 'Collaborating with competitors to acquire resources', *International Business Review*, 12, 61-81.
- Chetty, S.K. (2003) 'Explosive international growth and problems of success amongst small to medium-sized firms', *International Small Business Journal*, 21(1), 5-27.
- Chetty, S.K. and Agndal, H. (2007) 'Social Capital and Its Influence on Changes in Internationalisation Mode Among Small and Medium Sized Enterprises', *Journal of International Marketing*, 15(1), 1-29.
- Chetty, S.K. and Blankenburg Holm, D. (2000) 'Internationalisation of Small to Medium Sized Manufacturing Firms: A Network Approach', *International Business Review* 9, 77 – 93.
- Chetty, S.K. and Campbell-Hunt, C. (2004) 'A Strategic Approach to Internationalisation: A Traditional Versus a Born Global Approach', *Journal of International Marketing* 12(1), 57-81.
- Chetty, S.K. and Eriksson, K. (2002) 'Mutual Commitment and Experiential Knowledge immature International Business Relationship', *International Business Review* 11 , 305 – 324.
- Chia, R. (1997) 'Essai: Thirty Years on: From Organisational Structures to the Organisation of Thought', *Organisation Studies*, 18 (4), 685-707.
- Child, J, and Faulkner, D. (1998) *Strategies of cooperation. Managing alliances, networks, and joint ventures*. Great Britain: Oxford University Press.
- Child, J, and Yan, Y. (1999) 'Predicting the performance of international joint ventures: an investigation in China.' Working paper, University of Cambridge, UK.
- Child, J. (1998) 'Trust and international strategic alliances: the case of foreign joint ventures' in Lane, C. and Bachmann, R., eds., *Trust within and between Organisations*, Oxford University Press, Oxford, 241-72.
- Child, J. and Möllering, G. (2003) 'Contextual confidence and active trust development in the Chinese business environment', *Organisation Science*, 14 (1), 69-80.
- Choo, S. and Mazzarol, T. (2001) 'An Impact of Performance of Foreign Market Entry Choices by Small and Medium Sized Enterprises', *Journal of Enterprising Culture*, 9(3), 291-312.

- Chrisholm, A. (2008) 'Digital Opportunities' paper presented at the *Local Economic and Social Development Conference*, Limerick, April 21.
- Christensen, P. R. and Linkmark, L. (1993) 'Location and Internationalisation of Small Firms' in Lundqvist, L. and Persson, L. O., eds., *Visions and Strategies in European Integration*, Berlin: Springer-Verlag, 131- 151.
- Christophe, S.E. (1997) 'Hysteresis and the value of the U.S. Multinational Corporation', *Journal of Business* 70(3), 435-462.
- Chung, S., Singh, H. and Lee, K. (2000) 'Complementarity, status similarity and social capital as drivers of alliance formation' *Strategic Management Journal*, 21(1), 1-22.
- Churchill, G. A. (1999) *Marketing research: Methodological Foundations*, 7th Ed, Forth Worth: The Dyden Press.
- Clancy, P., O Malley, E., O Connell, L. and Van Egeraat, C. (1998) 'Culliton's Clusters: Still the way to go?' Report for NESC seminar: Sustaining Competitive Advantage, NESC Dublin.
- Clark, K. and Fujimoto, T. (1990) 'The power of product integrity', *Harvard Business Review* 68(6), 107-118.
- Clark, K. and Fujimoto, T. (1991) *Product Development in the World Automobile Industry*, Boston MA: Harvard Business School Press.
- Clark, T., Pugh, D. S. and Mallory, G. (1997) 'The Process of internationalisation in the operating firm', *International Business Review*, 6(6), 605 – 623.
- Clarke-Hill, C.M., Robinson, T.M. and Bailey, J. (1998) 'Skills and competence transfers in European retail alliances: a comparison between alliances and joint ventures', *European Business Review*, 98 (6), 300-10.
- Closs, D. J., Roat, A. S., Goldsby, T. J., Eckert, J. A., and Swartz, S. M. (1998) 'An Empirical Comparison of Anticipatory and Response-Based Supply Chain Strategies', *International Journal of Logistics Management*, 9 (2), 21-34.
- Coase, R. H. (1937) 'The Nature of the Firm,' *Economica*, 4(n.s.), 1937, 386-405. Reprinted in Coase, R.H. (1988) *The Firm, the Market, and the Law*, Chicago: University of Chicago Press, 33-55.
- Cohen, W. and Levinthal, D. (1990) 'Absorptive capacity: a new perspective on learning and innovation', *Administrative Science Quarterly*, 35, 128-52.
- Cohen, W. M. and Levinthal, D. A. (1989) 'Innovation and Learning: The Two Faces of R & D', *Economic Journal*, 99, 569-596.
- Coleman, J.S. (1988) 'Social capital in the creation of human capital' *The American Journal of Sociology* 94, 95–120 (Supplement).
- Collins, J.C. and Porras, J.I. (1994), *Built to Last: Successful Habits of Visionary Companies*, New York : Harper Collins.
- Commons, J. (1934) 'Institutional Economics: It's Place in Political Economy' Madison: University of Wisconsin Press.
- ComReg, (2003), Strategy Statement (2003 – 2005), Dublin, Ireland.
- ComReg, (2005a), ComReg Newsletter, Summer, Dublin, Ireland.
- ComReg, (2005b), Strategy Statement (2005-2007), Dublin, Ireland.
- ComReg, (2007), Strategy Statement (2008-2010), Dublin, Ireland.
- ComReg, (2008), Irish Communications Market, Quarterly Key Data, March, Dublin, Ireland.
- Conner, K.R. and Prahalad, C.K. (1996) 'A resource-based theory of the firm: knowledge versus opportunism', *Organisation Science* 7(5), 477-501.

- Contractor, F.J. and Lorange, P. (1988) 'Cooperative Strategies in International Business' Lexington MA; Lexington Books.
- Contractor, F.J., Kundu, S.K. and Hsu, C.C. (2003) 'A three-stage theory of international expansion: The link between multinationality and performance in the service sector', *Journal of International Business Studies*, 34, 5-18.
- Cook, K. S., and Emerson, R. M. (1978) 'Power, equity, and commitment in exchange networks' *American Sociological Review*, 43(October), 721–738.
- Cook, T.D. and Campbell, D.T. (1979) *Quasi-Experimentation – Design and Analysis Issues for Field Settings*, Chicago: Rand Mc Nally.
- Cooke, P. (1998) 'Comparative Performance of SMEs in European and Domestic Network Programmes', Cardiff University: Centre for Advanced Studies,
- Cooke, P. and Wills, D. (1999) 'Small firms, social capital and the enhancement of business performance through innovation programmes', *Small Business Economics* 13, 219 – 234.
- Cooke, P., Morgan, K. and Price, P. (1995) 'The Future of the Middlestand: Collaboration V Competition', in O Doherty D., eds., *Globalisation, Networking and Small Firm Innovation*, London; Graham and Trotman.
- Cooper, A.C. (1993) 'Challenges in predicting new firm performance', *Journal of Business Venturing* 8 (3), 241–253.
- Cooper, A.C., Gimeno-Gascon, F. J. and Woo, C. Y. (1994) 'Initial Human and Financial Capital Predictors of New Venture Performance', *Journal of Business Venturing*, 9 (5), 371-395.
- Corrigan, D. (2008), Embracing the Future of IT, Managed Services, *Sunday Business Post Supplement*, May 11.
- Cote, J. A. and Buckley, R. M. (1987) 'Estimating Trait, Method, and Error Variance: Generalizing Across Seventy Construct Validation Studies', *Journal of Marketing Research*, 26 (August), 315-319.
- Cote, J. A., and Buckley, R.M. (1988) 'Measurement error and theory testing in consumer research: An illustration of the importance of construct validation', *Journal of Consumer Research*, 14, 579–582.
- Coviello, N. E. (2003) 'Network Dynamics in the INV: From Conception to Early Growth', at *The Sixth Mc Gill Conference on International Entrepreneurship: Crossing Boundaries and Research New Frontiers*, 19 - 22 September, University of Ulster, Magee Campus, Ireland.
- Coviello, N. E., Brodie, R. J. and Munro, H. J. (2000) 'An investigation of marketing practice by firm size', *Journal of Business Venturing*, 15, (5-6), 523-545.
- Coviello, N. E. and Mc Auley, A. (1999) 'Internationalisation and the smaller firm: a review of contemporary empirical research', *Management International Review* 39(3), 223 – 256.
- Coviello, N. E., and Munro, H. (1992) 'Internationalizing the entrepreneurial technology-intensive firm: Growth through linkage development' Paper presented at the *Babson Entrepreneurship Research Conference*, INSEAD, Fontainebleau, France.
- Coviello, N.E. and Martin, K.A.M. (1999) 'Internationalisation of service SMEs: an integrated perspective from the engineering consulting sector', *Journal of International Marketing*, 7 (4), 42-66.
- Coviello, N.E. and McAuley, A. (1999) 'Internationalisation and the smaller firm: a review of contemporary empirical research', *Management International Review*, 39, 223-56.
- Coviello, N.E. and Munro, H. (1997) 'Network relationships and the internationalisation of small software firms', *International Business Review*, 6 (4), 361-86.
- Coviello, N.E. and Munro, H.J. (1995) 'Growing the entrepreneurial firm: networking for international market development', *European Journal of Marketing*, 29 (7), 49-61.

- Covin, J.G and Slevin, D. P (1991) 'A Conceptual Model of Entrepreneurship as Firm Behaviour' *Entrepreneurship Theory and Practice* 16 (1), 7-25.
- Covin, J.G., Slevin, D.P. and Covin, T.J. (1990) 'Content and performance of growth-seeking strategies: a comparison of small firms in high- and low-technology industries', *Journal of Business Venturing*, 5, 391-412.
- Crick, D. (1995) 'An Investigation into the targeting of UK export assistance', *European Journal of Marketing* 29(8), 76-94.
- Crick, D. (2002) 'The decision to discontinue exporting: SMEs in two U.K. trade sectors', *Journal of Small Business Management*, 40(1), 66-77.
- Crick, D. and Bradshaw, R. (1999) 'The standardisation versus adaptation decision of 'successful' SMEs: findings from a survey of winners of the Queen's Award for export', *Journal of Small Business and Enterprise Development*, 6(2), 191-199.
- Crick, D. and Jones, M. (2000). Small high-technology firms and international high-technology markets', *Journal of International Marketing*, 8(2), 63-85.
- Crick, D. and Spence, M. (2005) 'The Internationalisation of 'High Performing' UK High Tech SMEs: A Study of Planned and unplanned Strategies', *International Business Review*, 14, 167-185.
- Crick, D., Jones, M., and Hart, S. (1994) 'Export marketing research: an empirical investigation into the behaviour of UK firms', *Journal of European Marketing*, 3(2), 7-26.
- Cromie, S. and Birley, S. (1992) 'Networking by female business owners in Northern Ireland', *Journal of Business Venturing* 7 (3), 237-251.
- Cronbach, L. J. and Meehl, P.E. (1955), 'Construct validity in psychological tests', *Psychological Bulletin*, 52, 281-302.
- Crotty, M. (1998) *The Foundations of Social Research*, London: Sage Publications.
- Crowston, K. (1997) 'A coordination theory approach to organisational process design', *Organisation Science*, 8(2), 157-175.
- CSO, (2007), Information Society and Telecommunications, Dublin, Ireland.
- CSO, (2007) Small Business in Ireland, Central Statistics Office, Dublin
- CSO, (2008), External Trade, 24 April, Dublin, Ireland.
- Cullen, J. B., Johnson, J. L. and Sakano, T. (2000) 'Success through commitment and trust: The soft side of strategic alliance management', *Journal of World Business*, 35(3), 223-240.
- Cunningham, M.T. and Speigel, R. I. (1971) 'A Study of Successful Exporting', *British Journal of Marketing*, 5 (1), 2 - 12.
- Currall, S.C. and Judge, T.A. (1995) 'Measuring trust between organisational boundary role persons', *Organisational Behaviour and Human Decision Making Processes*, 64 (2), 151-70.
- Curran, J. and Jarvis, R., Blackburn, R. and Black, C. (1993) 'Networks and Small Firm: Constructs Methodological Strategies and Some Findings', *International Journal of Small Business* 11(2). 13-25.
- Czinkota, M. R. (1982) *Export Development Strategies: US Promotion Policy*, New York: Praeger.
- Czinkota, M.R. and Johnston, J. (1983) 'Exporting: does sales volume make a difference?', *Journal of International Business Studies*, 14 (1),147-53.
- D'Aveni, R. A. (1994) *Hypercompetition: Managing the Dynamics of Strategic Manoeuvring*, New York: Free Press.
- Daems, H. (1983) 'The Determinants of the Hierarchical Organisation of Industry' in Francis, A., Turk, T. and Willman P.,eds., *Power, Efficiency and Institutions*, London: Heinemann.

- Dalstrand, S., Olsson, P. and Persson, M. (1999) 'Corporate Networks: The Key to Success' in *Wood Processing Industry*, Arbetslivinstitutet: Arbetslivrapport, 17.
- Dana, L.P., Etemad, H., and Wright, R. (1999) 'The impact of globalisation on SMEs', *Global Focus*, 11(4), 93–105.
- Das, T.K. and Teng, B.S. (2000) 'Instabilities of strategic alliances: an internal tensions perspective', *Organisation Science*, 11 (1) Jan-Feb, 77 – 101.
- Davies, H., Leung, T.K.P., Luk, S.T.K. and Wong, Y.H. (1995) 'The benefits of *Guanxi*: the value of relationships in developing the chinese market', *Industrial Marketing Management*, 24, 207-214.
- Day, G.S. (1994) 'The capabilities of market-driven organisations', *Journal of Marketing*, 58: 37–52 (October).
- Dean, J., Holmes, S. and Smith S. (1997) 'Understanding business networks: evidence from the manufacturing and service sectors in Australia', *Journal of Small Business Management*, 35 , 78-84.
- De La Sierra, C. M. (1995) *Managing Global Alliances: Key Steps for Successful Collaboration*, New York: Addison Wesley.
- De Vellis, R. F. (2003) 'Scale Development: Theory and Practice', *Applied Social Research Methods Series*, 26, London: Sage Publications.
- De Wever, S., Martens, R. and Vandembemt, K. (2005) 'The impact of trust on strategic resource acquisition through inter-organisational networks: towards a conceptual model' *Human Relations*, 58(12), 1523-1543.
- Deardon, J. (1967) 'Computers: no impact on divisional control', *Harvard Business Review*, Jan/Feb, 99 - 104.
- Demick, D.H. and Reilly, A.J.O. (2000) 'Supporting SME internationalisation: a collaborative project for accelerated export development', *Irish Marketing Review*, 131, 34–45.
- Dess, G. G. and Robinson R. B. (1984) 'Measuring organisational performance in the absence of objective measures: the case of the privately held firm and conglomerate business unit', *Strategic Management Journal* 5 (3), 265-73.
- Deutsch, M. (1969) 'Conflicts: productive and destructive', *Journal of Social Issues*, 25, 7-41.
- Diamantopoulos, A. (1998) 'From the Guest Editor', *Journal of International Marketing* 6 (3): 3-6.
- Diamantopoulos, A. (1999) 'Export performance measurement: reflective versus formative indicators', *International Marketing Review*, 16(6), 444-457.
- Diamantopoulos, A. (2008) 'Formative indicators: introduction to the special issue', *Journal of Business Research*, 61, 1201-1202.
- Diamantopoulos, A. and Siguaw, J. A. (2000) *Introducing LISREL*, London: Sage Publications.
- Dichtl, E., Leibold, M., Koglemayr, H. G. and Mueller, S. (1984) 'The export decision of small and medium sized firm: a review', *Management International Review* 24(2),49-60.
- Dicksen, P. (1996) 'The static and dynamic mechanics of competitive theory', *Journal of Marketing*, 60, 102–106.
- Dierickx, I. and Cool, K. (1989) 'Asset Stock Accumulation and Sustainability of Competitive Advantage', *Management Science*, 35 (12) 1504 – 1511.
- Dillman, D. A. (2007) 'Mail and Internet Surveys: The Tailored Design Method' USA: John Wiley & Sons Inc.

- Dirks, K. T. and Ferrin, D. L. (2001) 'The Role of Trust in Organisational Settings', *Organisation Science*, 12 (4), 450–67.
- Donckels, R. and Lambrecht, J. (1995) 'Networks and small business growth: an explanatory model', *Small Business Economics*, 7 (4), 273–289.
- Dorsch, M. J., Swanson, S. R., and Kelley, S. W. (1998) 'The Role of Relationship Quality in the Stratification of Vendors as Perceived by Customers', *Journal of the Academy of Marketing Science*, 26 (2), 128-142.
- Dosi, G. and Teece, D.J. (1993) *Organisational competencies and boundaries of the firm*. Berkeley: University of California.
- Doukas, J.A. and Lang, L.H.P. (2003) 'Foreign direct investment, diversification and firm performance', *Journal of International Business Studies* 34, 153-172.
- Doyle, G.M. (2000) *Making Networks Work: A Review of Networks in Ireland and Abroad with Particular Reference to Training and Human Resource Development*, Dublin: Skillnets Ltd,
- Doz, Y. L. (1987) 'International Industries: Fragmentation versus Globalisation' in Guile, B.K. and Brooks, H., eds., *Technology and the Global Industry*, Washington DC: National Academy Press, 96 – 118.
- Doz, Y. L. (1996) 'The evolution of cooperation in strategic alliances: initial conditions or learning processes?' *Strategic Management Journal*, 17, 55-83.
- Doz, Y. L. and Hamel, G. (1998) *Alliance Advantage*, Boston, MA: Harvard Business School Press.
- Doz, Y.L. and Hamel, G. (1997) 'The Use of Alliances in Implementing Technology Strategy' in Tishman, M. and Anderson, P., eds., *Managing Strategic Innovation and Change*, New York and Oxford: Oxford University Press,.
- Doz, Y.L., Santos, J. and Williamson, P. (2001) *From Global to Meta-national: How Companies Win in the Knowledge Economy*, Boston, MA: Harvard Business School Press.
- Drucker, P.F. (1992) *Managing for the Future*, London: Butterworth-Heinemann Ltd.
- Du Toit, M. and Du Toit, S. (2001) *Interactive LISREL: User's Guide*, Lincolnwood IL: SSI Scientific Software International.
- Dubini, P., and Aldrich, H. (1991), 'Personal and extended networks are critical to the entrepreneurial process', *Journal of Business Venturing*, 6, 305-313
- Duchesneau, D.A., and Gartner, W.B. (1990) 'A profile of new venture success and failure in an emerging industry', *Journal of Business Venturing* 5 (5), 297–312.
- Dunning J.H. (1980) 'Toward an eclectic theory of international production: some empirical tests', *Journal of International Business Studies*, 11, 9 - 31.
- Dunning, J. H. (1977) 'Trade, Location of Economic Activity and Multinational Enterprise: A Search for an Eclectic Approach' in Ohlin, B., Hesselborn, P. O. and Wijkman, P.J., eds., *The International Allocation of Economic Activity*, London: Macmillan.
- Dunning, J. H. (1979) 'Explaining Changing Patterns of International Production: In Defence of Eclectic Theory' *Oxford Bulletin of Economics and Statistics*, 41 (4), 269 – 296.
- Dunning, J. H. (1988) 'The eclectic paradigm of international production: a restatement and some possible extensions', *Journal of International Business Studies*, 19 (Spring), 1- 31.
- Durieux, F., Girod-Seville, M. and Perret, V. (2000) 'De la planification strategique a la complexite, l'expansion' *Management Review*, Sept, 82 -92
- Dwyer, F. R., Schurr, P. H., and Oh, S. (1987) 'Developing buyer-seller relationships', *Journal of Marketing*, 51(April), 11–27.
- Dyer, J. H. (1996) 'Specialised supplier networks as a source of competitive advantage: evidence from the auto industry', *Strategic Management Journal*, 17 (4), 271-367.

- Dyer, J. H. and Chu, W. (2000) 'The determinants of trust in supplier-automaker relationships in the U.S., Japan and Korea', *Journal of International Business Studies*, 31(2), 259 – 285.
- Dyer, J. H. and Singh, H. (1998) 'The relational view: cooperative strategy and sources of competitive advantage', *Academy of Management Review*, 23 (4), 532 – 550.
- Dyer, J. H. and Singh, H. (2000). 'Using alliance to build competitive advantage in emerging technologies' in Day, G. S., Schoemaker, P. J. H. and Gunther, R. E., eds., *Wharton on Managing Emerging Technologies*, New York: John Wiley and Sons.
- Dyer, J.H. and Nobeoka, K. (2000) 'Creating and managing a high performance knowledge-sharing network: the Toyota case', *Strategic Management Journal* 21(3), 345-368.
- Easterby-Smith, M., Thorpe, R. and Lowe, A. (1991), *Management Research: An Introduction*, London: Sage Publications.
- Easton, G. (1992) 'Industrial Networks: A Review' in Axelsson, B. and Easton, G., eds., *Industrial Networks –A new View of Reality*, London: Routledge, 3-27.
- Easton, G. and Araujo, L. (1994) 'Market exchange, social structures and time', *European Journal of Marketing*, 28(3), 72-84.
- Easton, G., Burrell, G., Rothschild, R. and Shearman, C. (1993) *Managers and Competition*, Oxford: Blackwell
- Eastwood, G. (2006), *The Top 10 Telecoms Operators: Transformation, growth and convergence in the leading players*, Business Insights.
- Eberl, P. (2004) 'The development of trust and implications for organisational design: a game and attribution theoretical framework', *Schmalenbach Business Review*, 56(July), 258-373.
- Eccles, R. G. and Crane, D. B. (1987) 'Managing through networks in investment banking', *California Management Review*, 30, 176 - 195.
- Eccles, R.G. (1981) 'The quasi-Firm in the construction industry', *Journal of Economic Behaviour and Organisation* 2, 335 - 357.
- Edwards J.R. and Bagozzi R.P. (2000) 'On the nature and direction of relationships between constructs and their measures', *Psychological Methods* 5, 155–174.
- Einhorn, M. A. (2002) 'International telephony: A review of the literature', *Information Economics and Policy* 14, 51–73.
- Eisenhardt, K. and Martin, L. (2000) 'Dynamic capabilities: what are they?' *Strategic Management Journal*, 21, 1105-1121.
- Eisner, E. (1985) *The Art of Educational Evaluation, : A Personal View*, London: Flamer Press.
- Ellis, P (2000) 'Social ties and foreign market entry', *Journal of International Business Studies*, 31(3). 443 – 469.
- Emerson, R. M. (1972) 'Exchange theory part I: Exchange relations and network structures' in Zelditch, M. and Anderson, B., eds., *Sociological theories in progress*, 2. Boston: Houghton Mifflin.
- Emerson, R. M. (1981) 'Social exchange theory' in Rosenberg M. and Turner, R., eds., *Social psychology: Sociological perspectives*, New York: Basic Books.
- Emery, F.E. and Trist, E. L. (1965) 'The causal texture of organisational environments', *Human Relations*, 18, 21 - 32.
- Emery, F.E. and Trist, E. L. (1973) *Towards and Social Ecology*, New York: Plenum.
- ENSR, (European Network for SME Research) (2003) *Observatory of European SMEs: Internationalisation of SMEs*, No. 4, European Commission, Luxembourg.

- Eriksson, K. and Chetty, S. S. (2003) 'The effect of experience and absorptive capacity on foreign market Knowledge', *International Business Review*, 12, 673-695
- Eriksson, K., Hohenthal, J. and Johanson, J. (1998), 'A Model of Learning in International Business Networks' in *WZB Yearbook*, Berlin: Wissenschaftsraum.
- Eriksson, K., Johanson, J.A., Majkgard, A. and Sharma, D. (1997) 'Experiential knowledge and cost in the internationalisation process', *Journal of International Business Studies*, 28 (2), 337-60.
- European Commission, (1997) , Green Paper on the Convergence of the Telecommunications, Media and Information Technology Sectors, and the Implications for Regulation. Towards an Information Society Approach. COM (97) 623, Brussels: European Commission, 1997, (online) URL available: <http://europa.eu.int/ISPO/convergencegp/97623.html> , (accessed on 19.01.2005).
- European Commission (2005), The New SME Definition: User guide and model declaration, Brussels, Enterprise and Industry Publications.
- Eurostat, (2006) *European Commission – Enterprise and Industry – Facts and Figures: SMEs* (online) http://epp.eurostat.ec.europa.eu/portal/page/portal/european_business/special_topics/small_medium_sized_enterprises_SMEs Accessed: 12/11/09
- Evers, N. and Knight, J. (2006) 'Role of International Trade Shows in Small Firm Internationalisation: A Network Perspective' paper presented at the *Academy of International Business Annual Conference*, Beijing, China, June 23-26
- Evers, N. and O Gorman, C. (2006) 'The role of social and business ties in the internationalisation of new ventures', paper presented at *the Academy of International Business Annual Conference*, Beijing, China, June 23-26
- Fahy, J. (2001) *The Role of Resources in Global Competition*, London: Routledge.
- Fahy, J. (2002) 'A resource based analysis of sustainable competitive advantage in a global environment', *International Business Review*, 11, 57 – 78.
- Fahy, J. and Smithee, A. (1999) 'Strategic marketing and the resource based view of the firm', *Academy of Marketing Science Review*, 9.
- Fama, E. and Jensen, M. (1983) 'Separation of ownership and control', *Journal of Law and Economics* 26(2): 301-325.
- Fan, T. and Phan P. (2007) 'International New Ventures: Revisiting the influences behind the 'born-global' firm' *Journal of International Business Studies*, 38, 1113-1131.
- Fang, E.E., Palmatier, R. W., Scheer, L .F., and Li, N. (2008) 'Trust at different organisational levels' *Journal of Marketing*, 72 (March), 80-98.
- Faulkner, D. (1995) *International Strategic Alliances: Co-operating to Compete*, London: McGraw-Hill,
- Fiegenbaum, A., Hart, S. and Schendel, D. (1996) 'Strategic Reference Points Theory', *Strategic Management Journal*, 17, 219-235.
- Field, A., Goldfinch, S. and Perry, M. (1994) 'Promoting Small Business Networking: An Agency Comparison' Research Report No. 2, Christchurch, New Zealand: Social Research and Development.
- Fina, E and Rugman A.M. (1996). 'A test of internationalisation theory and internationalisation theory: the Upjohn company', *Management International Review*, 36 (3), 199 – 213.
- Fine, G. and Deegan, J. (1996) 'Three principles of serendipity; insight, chance and discovery in qualitative research', *Qualitative Studies in Education*, 9(4).

- Fink, M., Harms, R. and Kraus, S. (2008) 'Cooperative internationalisation of SMEs: self-commitment as a success factor for international entrepreneurship', *European Management Journal*, 26, 429-440.
- Fiol, C. M. and Lyles, M.A. (1985) 'Organisational Learning', *Academy of Management Review*, 10 (4) 803-813.
- Fischer, E., and Reuber, R.A. (2003) 'Support for rapid-growth firms: a comparison of the views of founders, government policymakers, and private sector resource providers', *Journal of Small Business Management* 41(4), 346–365.
- Fletcher, D. (2000) 'Learning to "think global and act local": Experiences from the Small Business Sector', *Education and Training* 42 (4/5), 211 – 219.
- Fletcher, R. (2001) 'A holistic approach to internationalisation', *International Business Review* 10 (1), 25 – 49.
- Fletcher, R. and Barrett, N. (2001) 'Embeddedness and the evolution of global networks', *Industrial Marketing Management*, 30, 561 – 57.
- Floren, H. and Tell, J. (2004) 'The emergent prerequisites of managerial learning in small firm networks', *The Leadership and Organisation Development Journal*, 25(3), 292-307.
- Florin, J., Lubatkin, M. and Schulze, W. (2003) 'A social capital model of high-growth ventures', *Academy of Management Journal*, 46 (3), 374–384.
- Fock, H.K.Y. and Woo, K.S. (1998) 'The China market: strategic implications of *Guanxi*', *Business Strategy Review*, 9 (3), 33-43.
- Foray, D. (1997) 'Generation and Distribution of Technological Knowledge: Incentives, Norms and Institutions' in Edquist, C.,ed., *Systems of Innovation. Technologies, Institutions and Organisations*, London and Washington: Pinter.
- Ford, D (2002) 'Distribution, internationalisation and network: solving old problems, learning new things and forgetting most of them', *International Marketing Review*, 19 (3), 225 – 235.
- Ford, D. (1980) 'The development of buyer-seller relationships in industrial markets', *European Journal of Marketing*, 5 (6), 339-354.
- Ford, D. and Rosson, P.J. (1982) 'The relationships between export manufacturers and their overseas distributors' in Czinkota, M. and Tesar, G.,eds., *Export Management*, New York: Praeger, 257-75.
- Ford, D., et al., (1998) *Managing Business Relationships*. Chichester: John Wiley.
- Ford, D., McDowell, R. and Turnbull, P. (1996), "Businesses-to-business marketing: strategic decisions about portfolios of relationships", *1996 Research Conference Proceedings, Centre for Relationship Marketing*, Roberto C. Goizueta School, Emory University, Atlanta, 59-67.
- Forfás, (2004) *Ahead of the Curve: Ireland's Place in the Global Economy*, Enterprise Strategy Group, Forfás, Dublin, Ireland.
- Forfás, (2008), *Annual Report 2008*, Dublin, Forfás.
- Fornell, C., and Larcker, D. F. (1981) 'Evaluating structural equation models with unobservable variables and measurement error', *Journal of Marketing Research*, 18, 39-50.
- Forsgren, M. (1989) *Managing the Internationalisation Process – The Swedish Case*, London:Routledge.
- Forsgren, M. (1990) 'Managing the international multi-centre firm', *European Management Journal*, 8 (2) 261 – 267.

- Forsgren, M. (2002) 'The concept of learning in the Uppsala internationalisation process model: a critical review' *International Business Review*, 11, 257 – 277.
- Forsgren, M. and Johanson, J. (1992) 'Managing Networks in International Business', Gordon and Breach, Philadelphia, PA, 1992.
- Francis, J. and Collins-Dodd, C. (2000) 'The impact of firms' export orientation on the export performance of high-tech small and medium-sized enterprises', *Journal of International Marketing* 8 (3), 84-103.
- Freel, M. (2000) 'External linkages and product innovation in small manufacturing firms', *Entrepreneurship & Regional Development*, 12, 245-66.
- Frenzen, J and Nakamoto, K. (1993), Structure, Cooperation and the Flow of Market Information, *Journal of Consumer Research*, 20 (December) 360-375.
- Friedberg, E. and Neuville, J.P. (1999) 'Trust, Opportunism and Cooperation in the European Automobile Industry' in Grandori, A., ed., *Interfirm Networks: Organisation and Industrial Competitiveness*, New York. Routledge.
- Fryxell, G. E., Dooley, R. S. and Vryza, M. (2002) 'After the ink dries: The interaction of trust and control in US-based international joint ventures', *Journal of Management Studies*, 39(6), 865–886.
- Fukuyama, F. (1995) 'Social capital and the global economy', *Foreign Affairs* 75(5), 89 – 103.
- Gadde, L E and H Hakansson, (1994) 'The Changing Role of Purchasing; Reconsidering Three Strategic Issues', *European Journal of Purchasing and Supply Chain Management*, 1, 1, 27-35
- Gadde, L. E. Huemer L and H Hakansson (2003) 'Strategising in industrial networks', *Industrial Marketing Management*, 32, 357-364.
- Gadde, L.E. and Hakansson, H. (1993) *Professional Purchasing*, London: Routledge.
- Gadde, L.E. and Håkansson, H. (2001) *Supply Network Strategies*, Chichester: Wiley.
- Gadde, L.E. and Mattsson, L. G. (1987) 'Stability and change in network relationships', *International Journal of Research in Marketing*, 4 (1), 29-41
- Galaskiewicz, J. and Zaheer, A. (1999) 'Networks of competitive advantage' in Andrews, S. and Knoke ,D., eds., *Research in the Sociology of Organisations*, Stamford, CT : JAI Press, 237–261.
- Galbraith, J. R. (1977) *Organisational Design*, London Addison Wesley Publishing Company.
- Galbraith, J.R. (1973) *Designing Complex Organisation*, London Addison Wesley Publishing Company.
- Gambetta, D. (1988) *Trust: Making and Breaking Cooperative Relations*, New York: Basil Blackwell.
- Ganesan, S. (1994) 'Determinants of long term orientation in buyer-seller relationships', *Journal of Marketing*, 58 (April), 1 – 19.
- Ganitsky, J. (1989) 'Strategies for innate and adoptive exporters', *International Marketing Review*, 6 (5), 50–65.
- Gargiulo, M, and Benassi, M. (2000) 'Trapped in your own net? network cohesion, structural holes, and the adaptation of social capital', *Organisation Science*, 11(2), 183-196
- Garvin, D.A. (1993) 'Building a learning organisation', *Harvard Business Review*, July-August, 78-91.
- Gemünden, H.G. and Ritter, T. (1997) 'Managing technological networks: the concept of network competence' in Gemünden, H.G., Ritter, T. and Walter, A., eds., *Relationships and networks in international markets*. Oxford: Pergamon/ Elsevier, 294– 304.

- Geringer, J. M. (1988) 'Partner selection criteria for developed country joint ventures', *Business Quarterly*, 53, 55-62.
- Geringer, M. and Hebert, L. (1991) 'Measuring performance in international joint ventures', *Journal of International Business Studies*, 2, 249-263.
- Geringer, J.M., Tallman, S. and Olsen, D.M. (2000) 'Product and international diversification among Japanese multinational firms', *Strategic Management Journal*, 21, 51-80.
- Gerpott, T. J. (1998) *Wettbewerbsstrategien im Telekommunikationsmarkt [Competitive strategies in telecommunication markets]* (3rd ed.). Stuttgart: Schaffer-Poeschel.
- Gerpott, T.J. and Jakopin, N. M. (2005) 'The degree on internationalisation and the financial performance of European mobile network operators' *Telecommunications Policy*, 29, 635-661.
- Ghoshal, S. and Moran, P. (1996) 'Bad for practice: a critique of the transaction cost theory', *Academy of Management Review*, 21, 13-47.
- Gibson, C.B. and Zellmer-Bruhn, M.E. (2001) 'Metaphors and meaning: an intercultural analysis of the concept of teamwork', *Administrative Science Quarterly* 46(2): 274-303.
- Giddens, A. (1994) 'Living in a post traditional society' in Beck, U., Giddnes, A. and Lash, S.,eds., *Reflexive Modernization*, Oxford: Blackwell Publishers.
- Gill, J. and Johnson, P. (1991) *Research Methods*, London: Paul Chapman.
- Gilsenan, J. (2007) *Irish Outsourcing and Managed Services Market*, Dublin: International Data Corporation (IDC).
- Gimeno, J. (2004) 'Competition within and between networks: the contingent effect of competitive embeddedness on alliance formation', *Academy of Management Journal*, 47, 820-842.
- Goerzen, A. (2005) 'Managing alliance networks: emerging practices of multinational corporations', *Academy of Management Executive*, 19(2), 94-107.
- Goerzen, A. (2007) 'Alliance networks and firm performance: the impact of repeated partnerships', *Strategic Management Journal*, 28, 487-509.
- Goldberger, A. S. (1972) 'Structural equation methods in the social sciences', *Econometrica* 40, 979-1000.
- Gomez-Mejia, L.R. and Palich, L.E. (1997) 'Cultural diversity and the performance of multinational firms', *Journal of International Business Studies*, 28(2), 309-335.
- Gommes-Casseres, B. (1994) 'Group versus group: how alliance networks compete', *Harvard Business Review*, 4, 4 - 11
- Gommes-Casseres, B. (1997) 'Alliance strategies of small firms', *Small Business Economics*, 9 (1), 33-44.
- Grabher, G. (1993) 'Rediscovering the social in the economics of inter-firm relations' in Grabher, G.,ed., *The embedded firm: On the socioeconomics of industrial networks*, London and New York: Routledge, 1-31.
- Granovetter, M.S. (1973) 'The strength of weak ties', *American Journal of Sociology*, 78, (6)1360 - 1380.
- Granovetter, M.S. (1983) 'The strength of weak ties: a network theory revisited' in Randall, C.,ed., *Sociological Theory*, San Fransisco, CA: Jossey Bass, 210 - 233.
- Granovetter, M.S. (1985) 'Economic action and social structure: the problem of embedded edition', *American Journal of Sociology*, 91 (November), 481-510.
- Granovetter, M.S. (1992) 'Networks and organisations: problems of explanation in economic sociology' in Nohria, N and Eccles, R.G.,eds., *Networks and Organisations: Structure, Form and Action*, Boston, MA: Harvard Business School Press,

- Grant, R.M. (1996) 'Towards a knowledge based theory of the firm', *Strategic Management Journal*, Winter, Special Issue, 17, 109-122.
- Grant, R.M. and Baden-Fuller, C. (1995) 'A knowledge based theory of inter-firm collaboration', *Academy of Management Best Paper Proceedings*, 17-21.
- Grant, R.M., (1991) 'The resource based theory of competitive advantage: implications for strategy formulation', *Californian Management Review*, 33,114 – 135.
- Grayson, K and Ambler, T. (1999) 'The dark side of long-term relationships in marketing services', *Journal of Marketing Research*, 36 (February), 132–41.
- Greenstein, S. and Khanna, T. (1997) 'What does industry convergence mean?', in Yoffie, D.B. ,ed., *Competing in the Age of Digital Convergence*, Boston: Harvard Business School Press.
- Greiner, L. (1972) 'Evolution and revolution as organisations grow', *Harvard Business Review*, July-August, 37-46.
- Greve, A. (1995) 'Networks and entrepreneurship - an analysis of social relations, occupational background, and use of contacts during the establishment process', *Scandinavian Journal of Management*, 11(1), 1 – 24.
- Griffin, A. and Page. A. L (1993) 'An interim report on measuring product development success and failure', *Journal of Product Innovation Management*, 10 (4), 291-308.
- Griffith, D.A., Hu, M.Y. and Ryans, J.K. (2000) 'Process standardization across intra- and inter-cultural relationships', *Journal of International Business Studies*, 31(2), 303 – 324.
- Grundlach, G.T., Achrol, R.S. and Mentzer, J.T. (1995) 'The structure of commitment in exchange', *Journal of Marketing*, 59(1),78-92.
- Guba, E.G. and Lincoln, Y.S. (1994) 'Competing paradigms in qualitative research' in Denzin, N.K. and Lincoln, Y.S.,eds., *Handbook of Qualitative Research* , Thousand Oaks, CA: Sage, 105-17.
- Guido, G. (1992) 'What US marketers should consider in planning a pan European approach', *Journal of Consumer Marketing*, 9(2), 29-33.
- Guillen, M. F. and Suarez, S. L. (2001) 'Developing the Internet: entrepreneurship and public policy in Ireland, Singapore, Argentina and Spain' *Telecommunications Policy*, 25, 349-371.
- Gulati, R. (1995a) 'Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances', *Academy of Management Journal* 38, 85-112.
- Gulati, R. (1995b) 'Social structure and alliance formation patterns: a longitudinal analysis', *Administrative Science Quarterly*, 40, 619-652.
- Gulati, R. (1998) 'Alliances and networks', *Strategic Management Journal*, 19(4), 293 – 317.
- Gulati, R. (1999) 'Network location and learning: the influence of network resources and firm capabilities on alliance formation', *Strategic Management Journal*, 20(5), 397-420
- Gulati, R. and Gargiulo M (1999), 'Where do Inter-organisational networks come from?' , *American Journal of Sociology*, 104/5, pp 1439 – 1493.
- Gulati, R., Khanna, T, and Nohria, N, (1994) 'Unilateral commitments and the importance of process in alliances', *Sloan Management Review*, 35(3), 61-69.
- Gulati, R., Nohria, N. and Zaheer, A. (2000) 'Strategic networks,' *Strategic Management Journal*, 21, 201 – 215.
- Hadjikhani, A. (1997) 'A note on the criticisms against the internationalisation process model', *Management International Review*, 37 (2 special issue), 43-66.
- Hage, J. (1965) 'An axiomatic theory of organisations', *Administrative Science Quarterly*, 10, 289 - 320.

- Hagedoorn, J. (1993) 'Understanding the rationale of strategic technology partnering: inter-organisational modes of cooperation and sectoral differences', *Strategic Management Journal*, 15 (4), 291 – 309.
- Hagg, I. and Johanson, J. (1983) *Firms in networks: a new view of competitive power*, Stockholm: Business and Social Research Institute,
- Hair, J. F., Black, W. C., Barrin, B. J., Anderson, R. E. and Thaham, R. L. (2006), *Multivariate data analysis*, Singapore: Pearson Prentice Hall Ltd.
- Håkansson, H. (1982) *Industrial Marketing and Purchasing of Industrial Goods*, New York: Wiley.
- Håkansson, H. (1987) 'Introduction' in Håkansson, H. .,ed., *Industrial Technological Development - A Network Approach*, London: Croom Helm , 3 - 25.
- Håkansson, H. and Johanson, J. (1992) 'A model of industrial networks' in Axelsson, B. and Easton, G.,eds., *Industrial Networks: A New View of Reality*, London: Routledge, 28-34.
- Håkansson, H. and Snehota, I. (1995) *Developing Relationship in Business Networks*, London: Routledge.
- Håkansson, H., Havila, V. and Pedersen, A.C. (1999). 'Learning in networks', *Industrial Marketing Management*, 28, 443–52.
- Hall, R. (1992) 'The strategic analysis of intangible resources' *Strategic Management Journal*, 13 (2), 135-144.
- Hall, R., Snell, A. F. and Foust, M.S. (1999) 'Item parceling strategies in SEM: investigating the subtle effects of unmodeled secondary constructs', *Organisational Research Methods*, 2 (3), 233-256.
- Hallen, L. (1992) 'Infrasctructural Networks in International Business', in Forsgren, M. and Johanson, J.eds. *Managing Networks in International Business*, Philadelphia PA: Gordon and Breach, 77 – 92.
- Hallen, L., Johanson, J., and Seyed-Mohamed, N. (1991) 'Inter-firm adaptation in business relationships', *Journal of Marketing*, 55(April), 29–37.
- Hamel, G. (1991) 'Competition for competence and inter-partner learning within international strategic alliances', *Strategic Management Journal*, 12, 83-104.
- Hamel, G. and Prahalad, C.K. (1994) *Competing for the Future*, Boston: Harvard Business School Press,
- Hamel, G. and Valikangas, L. (2003) 'The quest for resilience', *Harvard Business Review*, September, 52 – 63.
- Hammarkvist, K.O., Håkansson, H. and Mattsson, L.G.(1982) *Marknadsföring för Konkurrenskraft*, Stockholm: Liber.
- Hammersley, M. (2000) *Taking Sides in Social Research. Essays on Partisanship and Bias*, London: Routledge.
- Han, S.L., Wilson, D. T. and Dant, S. P. (1993) 'Buyer-supplier relationships today', *Industrial Marketing Management*, 22, 331-338.
- Hansen, M.T. (1999) 'The search-Transfer problem, the role of weak ties in sharing knowledge across organisational subunits', *Administrative Science Quarterly*, 44, (1), 81 - 111.
- Hara, G. and Kanai, T. (1994) 'Entrepreneurial networks across oceans to promote international strategic alliances for small businesses', *Journal of Small Business Venturing*, 9, 489-507.
- Harbison, J. and Pekar, P. (1998) *Smart alliances: a practical guide to repeatable success*, San Francisco, CA: Jossey-Bass.
- Harland, C.M. and Knight, L.A. (2001) 'Supply Network Strategy: Role and Competence Requirements', *International Journal of Operations & Production Management*, 21(4), 476

- Harman, H. H. (1967) *Modern Factor Analysis*, rev, ed, Chicago: University of Chicago Press.
- Harper, D. (1993) 'An Analysis of Inter-firm Networks' Report Prepared for the New Zealand Ministry of Commerce contract no. 584, New Zealand Institute of Economic Research, July.
- Harrigan, K. R. (1988) 'Strategic alliance and partner asymmetries', *Management International Review*, 28, 53-72.
- Harrigan, K.R. (1985) *Managing for Joint Venture Success*, New York: Praeger.
- Harris, S. and Wheeler, C. (2005) 'Entrepreneurs' relationships for internationalisation: functions, origins and strategies', *International Business Review*, 14 (2), 187-207.
- Hart, M., Stevenson, H. and Dial, J. (1995) 'Entrepreneurship: a definition' In *Frontiers of Entrepreneurship Research*, Babson Park, MA: Babson College.
- Harveston, P.D., Kedia, B.L. and Francis, J.D. (1999) 'MNE's dependence on foreign operations and performance: A study of MNEs from the "Triad" regions', *International Business Review*, 8, 293-307.
- Harvey, M. and Lusch, R. (1995) 'A systematic assessment of potential strategic alliance partners', *International Business Review* 4 (2).
- Harzing, A. W. (2003) 'The role of culture in entry mode studies: From neglect to myopia?' *Advances in International Management*, 15, 75–127.
- Havnes, P.A. and Senneseth, K. (2001) 'A panel study of firm growth among SMEs in networks', *Small Business Economic,s* 16 (4), 293–302.
- Hedlund, G. (1986) 'The hypermodern MNC: a heterarchy', *Human Resource Management* 25(1), 9-35.
- Hedlund, G. and Kvarnland, A. (1993) 'Are Entry Strategies for Foreign Markets Changing? The Case of Swedish Investments in Japan' in Buckley, P.J. and Ghauri, P. N.,eds., *The Internationalisation of the Firm: A Reader*, London: Academic Press, 106-208.
- Hedlund, G. and Kverneland, A. (1985) 'Are strategies for foreign markets changing? The case of Swedish investment in Japan', *International Studies of Management and Organisation*, 15 (2) 41-59.
- Heide, J. B. and Miner A. S. (1992) 'The shadow of the future: Effects of anticipated interaction and frequency of contact on buyer-seller cooperation', *Academy of Management Journal*, 35 (2), 265-291.
- Heide, J.B. (1994) 'Inter-organisational governance in marketing channels', *Journal of Marketing*, 58, 71-85.
- Heide, J.B. and John, G. (1992) 'Do norms matter in marketing relationships,' *Journal of Marketing*, 56(2), 32-44.
- Heilmeyer, G. H. (1998), 'POTS and PANS: telecommunications in transition' *The Bridge*, 28(1) - Spring
- Helfat, C. E. and Peteraf, M. (2003) 'The dynamic resource based view: capability lifecycles' *Strategic Management Journal*, 24, 997-1010.
- Helfat, C. (2007) 'Relational capabilities: drivers and implications' In Helfat, C.E. , Finkelstein, S. , Mitchell, W. , Peteraf, M. , Singh, H. , Teece, D.J. and Winter, S.G.,eds., *Dynamic Capabilities: Strategic Change in Organisations*, Oxford, UK: Blackwell, 65-80.
- Helfert, G. (1998) *Teams in Relationship Marketing: Design von Effektiven Kundenbeziehungsteams*, Wiesbaden: Galber.
- Helfert, G. and Vith, K. (1999) 'Relationship marketing teams: improving the utilization of customer relationship potentials through a high team design quality', *Industrial Marketing*

Management, 28, 553-564.

Henders, B. (1992) 'Position in Industrial Networks - Marketing Newsprint in the UK' Doctoral Thesis at Uppsala University, Business Studies Department, Uppsala.

Henderson, R. and Cockburn, I. (1994) 'Measuring competence? Exploring firm effects in pharmaceutical research', *Strategic Management Journal*, Winter Special Issue 15, 61-83.

Hennart, J.F. (1988) 'A transaction costs theory of equity joint ventures', *Strategic Management Journal*, 9(4), 361-374.

Hennart, J. F. (1982) *A theory of Multinational Enterprise*, Ann Arbor, MI: University of Michigan Press,

Hennart, J.F. (1989) 'Can the 'new forms of investment' substitute for the 'old forms'? a transaction cost perspective', *Journal of International Business Studies*, 20, 211 - 234.

Hennigan, M. (2009) 'Irish economy: home truths on Irish exports as Ireland faces a changed global economy in the decade ahead' (online) <http://www.finfacts.ie/> accessed on 26/07/0

Henten, A. (2001) 'Trade in telecom-based services' in. Melody, W. H.,ed., *Telecom reform: Principles, policies and regulatory practices* (2nd ed.)Lyngby: Technical University of Denmark, 401–414

Henzler, H. and Rall, W. (1986)' Facing up to the globalisation challenge', *Mc Kinsey Quarterly*, Winter Issue 52 – 68.

Hessels, S. and Jolanda, A. (2008) 'Overcoming Resource Constraints through Internationalization? An Empirical Analysis of European SMEs' Babson College Entrepreneurship Research Conference (BCERC) 2008; Frontiers of Entrepreneurship Research, (online)<http://ssrn.com/abstract=1348183> Accessed: 12/11/09

Hertz, S. (1993)' The internationalisation processes of freight transport companies: towards a dynamic network model of internationalisation' PhD dissertation, Stockholm School of Economics, The Economic Research Institute/EFI.

Heydebrand, W. V. (1989) 'New organisational forms', *Work and Occupation*,s 16(3), 323–357.

Hill, C. (2003) *International Business*, 4th edn. Boston: McGraw-Hill Irwin.

Hill, R. C. and Hellriegel, D. (1994) 'Critical contingencies in joint venture management: some lessons from managers' *Organisation Science*, 5, 594-607.

Hinterhuber, A. (2002). 'Value chain orchestration in action and the case of the global agrochemical industry', *Long Range Planning*, 35, 6, 615–35.

Hisrich, R.D. (1992) ' The need for marketing in entrepreneurship', *Journal of Business and Industrial*

Marketing 7(3), 53–57.

Hite, J M, (2005) 'Evolutionary processes and paths of relationally embedded network ties in emerging entrepreneurial firms' *Entrepreneurship Theory and Practice*, January, 113-144.

Hite, J.M. (2003) 'Patterns of multidimensionality among embedded network ties: A typology of relational embeddedness in emerging entrepreneurial firms', *Strategic Organisation*, 1(1), 9-49.

Hite, J.M. and Hesterly, W.S. (2001) 'The evolution of firm networks: From emergence to early growth of the firm', *Strategic Management Journal*, 22(3), 275-286.

Hitt, M.A., Hoskisson, R.E. and Kim, H. (1997) 'International diversification: Effects on innovation and firm performance in product-diversified firms', *Academy of Management Journal*, 40(4), 767-798.

- Hoang, H. and Antoncic, B. (2003) 'Network based research in entrepreneurship: a critical review', *Journal of Business Venturing*, 18, 165-187.
- Hodge, B.J., Anthony, W.P. and Gales, L.M. (1996) *Organisation theory: a strategic approach*, 5th ed. Upper Saddle River New Jersey: Prentice Hall,
- Holbrook, D., Cohen, W.M., Hounshell, D.A. and Klepper, S. (2000) 'The nature, sources, and consequences of firm differences in the early history of the semiconductor industry', *Strategic Management Journal*, 21, 1017-41.
- Hollenstein, H. (2005) 'Determinants of International Activities: Are SMEs Different?' *Small Business Economics*, 24(5), 431-450.
- Holm, B. D., Eriksson, K. and Johanson, J. (1996) 'Business networks and cooperations in international business relationships', *Journal of International Business Studies*, 27(5), 1033 – 1053
- Holmlund, M. and Kock, S. (1998) 'Relationships and the internationalisation of Finnish small and medium sized companies', *International Small Business Journal* 16, 46 – 63
- Holstein, W.J. (1992) 'Little companies, big exports', *Newsweek*, 3261, 7–72.
- Hopkins, J.L. and Fynes, B. (2006) 'Mapping the value chain network of the Irish telecommunications industry', paper presented at the *11th International Symposium on Logistics*, Beijing, China, 9-11 July 2006
- Hosmer, L.T. (1995) 'Trust: the connecting link between organisational theory and philosophical ethics', *Academy of Management Review*, 20(2), 379-403.
- Howitt, D. and Cramer, D. (2001) *A Guide to Computing Statistics – with SPSS for Windows*, London: Prentice Hall
- Hsu, C. C. and Pereira, A. (2008) 'Internationalisation and performance: the moderating effects of organisational learning', *The International Journal of Management Science*, 36, 188-205.
- Hsu, C.C. and Boggs, D.J. (2003) 'Internationalisation and performance: Traditional measures and their decomposition', *Multinational Business Review* 11(3): 23-49.
- Huber, G. P. (1991) 'Organisational learning: the contributing processes and literatures', *Organisational Science*, 2 (2), 88-115.
- Huber, G. P. (1984) 'The nature and design of post-industrial organisations', *Management Science*, 30 (8) August 928 – 951.
- Hulland, J. (1999) 'Use of partial Least Squares (PLS) in strategic management research: a review of four recent studies', *Strategic Management Journal*, 20, 195-204.
- Hult, G. T., Ketchen, D., Cui, A., Prud'homme, A., Seggie, S., Stanko, M., Xu, A. and Cavusgil, S. (2006) 'An assessment of the use of structural equations modeling in international business research' in Ketchen, D. and Bergh, D., eds., *Research Methodology in Strategy and Management*, Vol 3, Amsterdam: Elsevier JAI.
- Human, S.E. and Provan, K.G. (1998) 'An emergent theory of structure and outcomes in small firm strategic manufacturing networks', *Academy of Management Journal*, 40(2), 368-403.
- Hung, S. C. (2002) 'Mobilising networks to achieve strategic difference', *Long Range Planning*, 35 (6), 591-613.
- Hunt, G, Froggatt, J. D. and Hovell, P. T. (1967) 'The Management of export marketing in engineering industries', *British Journal of Marketing*, 1, 10 – 24.
- Hussey, L. and Hussey, R. (1997) *Business research: a practical guide for undergraduate and postgraduate students*, London: Macmillan Press.

- Hustedde, R.J. and Pulver, G.C. (1992) 'Factors affecting equity capital acquisition: the demand side', *Journal of Business Venturing* 7 (5), 363–374.
- Hymer, S.H. (1976) *The international operations of national firms: A study of foreign direct investment*, MIT Press: Cambridge, MA.
- Hyvarinen, L. (1996) 'Networking as a Factor of Excellence - Experiences of Finnish Small Enterprises in Wood and Clothing Industries' Paper presented at the 26th *European Small Business Seminar*, Vassa, Finland
- IEA, (2007), Irish Exporters Association, Half Year Review 2007, Dublin, Ireland
- Imai, K. and Baba, Y. (1991) 'Systematic innovation and cross-border networks: transcending markets and hierarchies to create a new techno-economic system', *Technology and Productivity OECD*, 389 - 405.
- Imai, K. and Itami, H., (1984) 'Interpenetration of firm and market: Japan's firm and market in comparison with the U.S', *International Journal Industrial Organisations*. 2, 285– 310.
- Inkpen, A. (1994) 'The Characteristics and Performance of Japanese-North American Joint Ventures in North America' in Prasad, S. B. and Peterson, R. B.,eds., *Advances in International Comparative Management*, 9, Greenwich CT: JAI Press, 83-108.
- Inkpen, A. and Beamish, P. W. (1997) 'Knowledge, bargaining power, and the instability of international joint ventures', *Academy of Management Review*, 22. 177-203.
- Inkpen, A. and Crossan, M.M. (1995), 'Believing is seeing: joint ventures and organisation learning', *Journal of Management Studies*, 32,595-618.
- Inkpen, A., and Currall, S. (1997) 'International joint venture trust: An empirical examination' in Beamish, P. W. and Killing, J. P.,eds., *Cooperative strategies: North American perspectives*: San Francisco, CA: New Lexington Press, 308–334.
- Intertrade Ireland, (2006) *Business Networks on the Island of Ireland*, Co. Down, Northern Ireland
- Jackson, S.E., Brett, J. F., Sessa, V. I., Cooper, D. M., Julin, J.A and Peyronnin, K. (1991) 'Some differences make a difference: Individual dissimilarity and group heterogeneity as correlates of recruitment, promotions and turnover', *Journal of Applied Psychology*, 76, 675-689.
- Jacobson, R. (1987) 'The validity of ROI as a measure of business performance', *The American Economic Review*, 77 (3), 470-78.
- Jaffe, E.D. and Pasternak, H. (1994) 'An attitudinal model to determine the export intention of non-exporting, small manufacturers', *International Marketing Review*, 11(3), 17-32.
- Jain, S.C. (1989) 'Standardisation of international marketing strategy: some research hypothesis,' *Journal of Marketing* 53(1), 70-79
- Jaklic, M. (1998) 'Internationalisation strategies, networking and functional discretion', *Competition & Change*, 3 (4), 359-85.
- Jansen, E., Hocevar, S. P., Rendon, R. G. and Thomas ,G. F. (2008), 'Inter-organisational Collaborative Capacity: Development of a Database to Refine Instrumentation and Explore Patterns' Monterey, California: Acquisition Research Programme, Graduate School of Business & Public Policy, Naval Postgraduate School.
- Jansson, H. (1989) 'Internationalisation processes in South-East Asia: an extension or another process?' in: Kaynak, E.and Lee, K.H.,eds.,*Global Business: Asia-Pacific Dimensions*, Routhledge, Chap. 4.
- Jansson, H. (1994) *Industrial products. A Guide to the International Marketing Economics Model*. New York: International Business Press (Haworth Press),
- Jansson, H. (2006) 'From industrial marketing to business-to-business marketing and relationship marketing' in Lagrosen, S. and Svensson, G., eds., *Marketing: Broadening the Horizons*, Lund: Studentlitteratur, 115–136.

- Jansson, H. (2007) *International business marketing in emerging country markets: the third wave of internationalisation of firms*, Cheltenham, UK: Edward Elgar.
- Jansson, H. and Sandberg, S. (2008) 'Internationalisation of small and medium sized enterprises in the Baltic Sea Region', *Journal of International Management*, 14(1), 65-77.
- Jarillo, C.J. (1989) 'Entrepreneurship and growth: the strategic use of external resources', *Journal of Business Venturing* 4 (2), 133-147.
- Jarillo, J.C. (1988) 'On strategic networks', *Strategic Management Journal*, 9, 31-41.
- Jaworski, B.J. and Kohli, A. K. (1993) 'Market orientation: antecedents and consequences', *Journal of Marketing*, 57 (July), 53-70.
- Johannisson, B. (1986), "New venture creation – a network approach", in Ronstadt, C. and Kanter, R. "Collaborative advantage: the art of alliances", *Harvard Business Review* July-August, 96-108.
- Johannisson, B. (1988) 'Business formation – a network approach', *Scandinavian Journal of Management*, 4 (3/4), 83-99
- Johannisson, B. (1994) 'Entrepreneurial networks – some conceptual and methodological notes' paper presented at the 8th Nordic Conference on Small Business Research at Halmstad University, Halmstad Sweden. Vaxjo University/Lund University, June 13 – 15.
- Johannisson, B. (1996) 'Personal relationships as a wealth of power in business' in Johannisson, B. and Lindmark, L.,eds., *Firms, Entrepreneurs, Entrepreneurship*, Lund: 122 – 150.
- Johanson, J. and Mattsson, L. G. (1987) 'Internationalisation in industrial systems - a network approach, strategies in global competition' Prince Bertil Symposium. Selected Papers: Croom Helm, 287 – 314.
- Johanson, J. and Mattsson, L. G. (1992) 'Network positions and strategic action - an analytical framework' in Axelsson, and Easton, G.,eds., *Industrial Networks - A New View of Reality*, London: Routledge, 203-217.
- Johanson, J. and Vahlne, J. E. (1992), 'Management of foreign market entry', *Scandinavian International Business Review*, 1(3), 9 – 27.
- Johanson, J. and Vahlne, J. E. (1977) 'The internationalisation process of the firm - a model of knowledge development and increasing foreign commitments', *Journal of International Business Studies*, 8 (1), 23 - 32.
- Johanson, J. and Vahlne, J. E. (1990) 'The mechanism of internationalisation', *International Marketing Review* 7(4), 11-24.
- Johanson, J. and Vahlne, J. E. (2006) 'Commitment and opportunity development in the internationalisation process - a note on the Uppsala internationalisation process model', *Management International Review*, 46 (2), 165-178.
- Johanson, J. and Vahlne, J.E. (1978) 'A model for the decision-making process of the firm', in Ghertman, M. and Leontiades, S.,eds., *European Research in International Business*, New York: Elsevier North-Holland, 12-27.
- Johanson, J. and Vahlne, J.E. (2003) 'Business relationship learning and commitment in the internationalisation process', *Journal of International Entrepreneurship* 1, 83-101.
- Johanson, J. and Wiedersheim-Paul, F. (1975) 'The internationalisation of the firm – four Swedish cases', *Journal of Management Studies*, October, 305-322.
- Johansson, O. (1994) 'Internationalisation and diversification of technology-based services: A comparative analysis of 25 telecommunication service corporations' in Bohlin, E., Brodin K., Lundgren A. and Thorngren B. ,eds., *Convergence in Communications and Beyond*, Amsterdam: North Holland.
- Johnsen, R. E. and T. E. Johnsen, (1999) 'International market development through networks: The Case of the Ayrshire knitwear sector', *International Journal of*

- Johnston, W.J. and Czinkota, M. R. (1982) 'Managerial motivations as determinants of industrial export behaviour' in Czinkota MR and Tesar G., eds., *Export Management: An International Context*, New York: Praeger, 3-17.
- Jolly, V. K., Alahunta, M. and Jeannet, J. P. (1992) 'Challenging the incumbents: how high technology start-ups compete globally', *Journal of Strategic Change*, 1, 71 – 82.
- Jones, G. and George, J. (1998) 'The Experience and Evolution of Trust: Implications for Cooperation and Teamwork' *Academy of Management Review*, 23: 3
- Jones, M. V. (1999) 'The internationalisation of small high technology firms', *Journal of International Marketing*, 7(4), 15–41.
- Jones, M. V. (2001) 'First steps in internationalisation: concepts and evidence from a sample of small high-technology firms', *Journal of International Management*, 7, 191-210.
- Jones, M. V. and Coviello, N. (2005) 'Internationalisation: conceptualizing and entrepreneurial process of behaviour in time', *Journal of International Business Studies*, 36(3), 284-303.
- Jones, M. V. and Young, S. (2009) 'Does entry mode matter: reviewing current themes and perspectives', in Jones et al., eds., *Internationalisation, Entrepreneurship and the Smaller Firm*, UK: Edward Elgar Publishing LTD,
- Jöreskog, K. G., and Sörbom, D. (1996) *Preliis 2: user's reference guide*. Chicago: Scientific Software International, Inc.; Erlbaum.
- Jöreskog, K.G. and Sörbom, D (2003) *LISREL Version 8.54: user's referenceGuide [electronic manual]*. Chicago, Ill: Scientific Software International Inc;
- Jöreskog, K.G., Sörbom, D., du Toit., S. and du Toit., M. (2000) *LISREL 8: new statistical features*, Lincolnwood IL: SSI Scientific Software International.
- Julien, P. (1993) 'Small business as a research subject: some reflections on knowledge of small business and its effect on economic theory', *Small Business Economics*, 5(2), 157 – 166.
- Kahn, H., Brown, W. and Martel, L. (1976) *The Next 200 Years: A Scenario for America and the World*, New York: Morrow and Company.
- Kale, P. and Singh, H. (2007) 'Building firm capabilities through learning: the role of the alliance learning process in alliance capability and firm-level alliance success', *Strategic Management Journal*, 28, 981 – 1000.
- Kale, P., Dyer, J. and Singh, H. (2001) 'Value creation and success in strategic alliances: alliancing skills and the role of alliance structure and systems', *European Management Journal*, 19(5), 463 – 471.
- Kale, P., Dyer, J. H. and Singh, H. (2002) 'Alliance capability, stock market response, and long term alliance success: the role of the alliance function', *Strategic Management Journal*, 23, 747 – 767.
- Kale, P., Singh, H. and Perlmutter, H. (2000) 'Learning and protection of proprietary assets in strategic alliances: building relational capital', *Strategic Management Journal*, 21, 217 – 237.
- Kale, S.H. and Sundharsam, S. (1987) 'A strategic approach to international segmentation', *International Marketing Review*, 4(2), 60-70.
- Kalwany, M. U. and Narayandes, N. (1995) 'Long-term manufacturer– supplier relationships: do they pay off for supplier firms?' *Journal of Marketing*, 59, (January), 1–16.
- Kanji, G. K. (2006) *100 Statistical Tests*, London: Sage Publications.

- Kanter, R. (1994) 'Collaborative advantage: the art of alliances', *Harvard Business Review*, July-August, 96-108.
- Kao, J. (1993) 'The worldwide web of Chinese business', *Harvard Business Review* 71(2), 24-36.
- Kapasuwan, S. (2006) 'Effects of networks on organisational learning capability and firm performance' paper presented at the *Academy of International Business Annual Conference*, Beijing, China, June 23 – 26.
- Karagozoglu, N. and Lindell, M. (1998) 'Internationalisation of small and medium-sized technology-based firms: an exploratory study', *Journal of Small Business Management*, 36(1), 44–59.
- Kathawala, Y. and Lingaraj, P. B. (1990) 'Organisational structure considerations in the next decade: implications for operations management', *International Journal of Operations and Production*, 10 (8), 53 – 60
- Katsikeas, C. S. (1996) 'Ongoing export motivation: differences between regular and sporadic exporters', *International Marketing Review*, 13(2), 4–19.
- Katsikeas, C. S., Piercy, N. F., and Ioannidis, C. (1996) 'Determinants of export performance in a European context', *European Journal of Marketing*, 30, 6–35.
- Katsikeas, C.S. and Piercy, N.F. (1990) 'The relationship between Greek export manufacturers and UK importers: The dimension of exercised power', *Journal of Marketing Management*, 6(3), 239-256.
- Katsikeas, C.S., Leonidou, L. and Morgan, N. (2000) 'Firm level export performance assessment: review, evaluation and development', *Academy of Marketing Science*, 28 (4), 493-511.
- Katsikeas, C.S., Skarmas, D. and Bello, D. C. (2009) 'Developing successful trust-based international exchange relationships', *Journal of International Business Studies*, 40, 132-155.
- Keats, B. W. and Bracker, J. S. (1988) 'Toward a theory of small firm performance: a conceptual model', *American Journal of Small Business*, 4 (Spring), 41-58.
- Kelloway, E.K. (1998) *Using LISREL for Structural Equations Modeling: A Researcher's Guide*, Thousand Oaks: CA Sage.
- Kenny, B. and Sheikh, H. (2000) 'Foreign language use and training: a study of US firms operating in the Mid West Region of Ireland', *The Journal of Language for International Business*, 11(1), 41 – 57.
- Kent, P. (1994) 'Management advisory services and the financial performance of clients', *International Small Business Journal*, 12 (4), 45–58.
- Kinch, N. (1992) 'Entering a Tightly Structured Network – Strategic Visions or Network Realities' in Forsgren, M. and Johanson, J., eds., *Managing Networks in International Business*, Philadelphia: Gordon and Breach, 194-214.
- King, P. (1990) *International Economics and International Economic Policy*, Singapore: Mc Graw Hill.
- Kinnear, T. C. and Taylor, J. R. (1991) *Marketing Research: An Applied Approach*, New York: Mc Graw Hill.
- Knight, G. (2000) 'Entrepreneurship and marketing strategy: the SME under globalization', *Journal of International Marketing*, 8 (2), 12-32.
- Knight, G. A. (1997) 'Cross-Cultural reliability and validity of a scale to measure firm entrepreneurial orientation', *Journal of Business Venturing*, 12, 213 – 225.
- Knight, G. A. and Calantone, R. J. (2000) 'A flexible model of consumer country of origin perceptions: a cross cultural investigation', *International Marketing Review*, 17(2), 127 –

- Knight, G. and Cavusgil, S. T. (2004) 'Innovation, organisational capabilities, and the born global firm', *Journal of International Business Studies*, 35(2), 124 - 141.
- Knight, G.A. and Cavusgil, S. T. (1996) 'The born global firm: a challenge to traditional internationalisation theory', *Advances in International Marketing*, 11 – 26.
- Kogut, B. (1988) 'Joint ventures: theoretical and empirical perspectives', *Strategic Management Journal*, 9(4), 319 – 322.
- Kogut, B. (2000) 'The network as knowledge: generative rules and the emergence of structure', *Strategic Management Journal*, 21, 405–25
- Kogut, B. and Zander, U. (1992) 'Knowledge of the firm, combinative capabilities, and the replication of technology' *Organisation Science*, 3, 383-397.
- Kogut, B. and Zander, U. (1993) 'Knowledge of the firm and the evolutionary theory of the multinational corporation', *Journal of International Business Studies*, 24(4), 625 – 645.
- Kogut, B. (1985) 'Designing global strategies: profiting from operational flexibility', *Sloan Management Review* 27(1), 27-38.
- Koh, J. and Venkatraman, N. (1991) 'Joint venture formations and stock market reactions: an assessment in the information technology sector', *Academy of Management Journal*, 34, 869–892.
- Kraatz, M.S. (1998) 'Learning by association, inter-organisational networks and adaptation to environmental change' *Academy of Management Journal*, 4(6), 621-643.
- Kraatz, M.S. and Zajac, E. J. (2001) 'How organisational resources affect strategic change and performance in turbulent environments: theory and evidence', *Organisation Science*, 12 (5), 632-657
- Kranenburg, H. V., Pennings, J., Dalzotto, C. and Hagedoorn, J. (2008) 'Innovation through external sourcing activities: an overview of major trends and patterns of telecommunications service providers industry' paper presented at the *Academy of International Business annual conference on Knowledge Development and Exchange in International Business Networks*, Milan June 30 – July2nd.
- Kranenburg, H.V. and Hagedoorn, J. (2007) 'Strategic focus of incumbents in the European telecommunications industry: the cases of BT, Deutsche Telekom and KPN', *Telecommunications Policy*, forthcoming.
- Krist, M., Bausch, A. and Rosenbusch, N. (2006) ' Internationalisation and its relationship to Firm Performance: the role of intangible resources', paper presented at the *Academy of International Business Annual Conference*, Beijing, China, June 22 – 26.
- Kuemmerle, W. (2002) ' Home base and knowledge management in international new ventures' *Journal of Business Venturing*, 17(2), 99-122.
- Kumar, N., Stern, L. W. and Anderson, J. C. (1993) 'Conducting inter-organisational research using key informants', *Academy of Management Journal*, 36 (6), 1633-1651.
- Kumar, V. and Subramaniam, V. (1997) 'A contingency framework for the mode of entry decision', *Journal of World Business*, 32(1), 53–72.
- Kutscher, M., Baurle, I. and Schmidt, S. (1997) 'International evolution, international episodes, and international epochs – implications for managing internationalisation', *Management International Review*, 37 (2), 101-23.
- Kuvailinen, O. (2003) Knowledge based view of Internationalisation – Studies on small and medium sized information and communication technology firms. Doctoral thesis, Lappeenranta University of Technology, Finland. (ISBN 951-764-782-4).
- La Belle, A. and Nice, H. E. (1987) 'Wither the IT organisation', *Sloan Management Review*, 28(Summer), 75 – 85.

- Lado, A.A., Boyd, N. and Wright, P. (1992) 'A competency-based model of sustainable competitive advantage: toward a conceptual integration', *Journal of Management*, 18, 77–91.
- Lado, A.A., Boyd, N.G. and Hanlon, S.C. (1997) 'Competition, cooperation and the search for economic rents: a syncretic model', *Academy of Management Review* 22, 110 - 41.
- Lages, L. (2000) 'A Conceptual framework of the determinants of export performance: reorganising key variables and shifting contingencies in export marketing', *Journal of Global Marketing*, 13(3), 29 – 51.
- Lages, L. F. and Lages, C. R. (2004) 'The STEP Scale: A measure of short-term export performance improvement', *Journal of International Marketing* 12 (1), 36-56.
- Lambrecht, J. and Pirnay, F. (2005) 'An evaluation of public support measures for private external consultancies to SMEs in the Walloon region of Belgium' *Entrepreneurship and Regional Development*, 17 (2), 89-108.
- Landis, R. S., Beal, D. J. and Tesluk, P. E. (2000) 'A Comparison of Approaches to Forming Composite Measures in Structural Equations Modeling', *Organisational Research Methods*, 3(2), 186-207.
- Lane, C. and Bachmann, R. (1996) 'The social constitution of trust: supplier relations in Britain and Germany', *Organisation Studies*, 17 (3), 365-95.
- Lane, D. and Maxfield, R. (1996) 'Strategy under complexity: fostering generative relationships', *Long Range Planning*, 29 (2) , 215- 31.
- Lane, P.J. and Koka, B. R. (2006) 'The teification of absorptive capacity: a critical review and rejuvenation of the construct', *Academy of Management Review*, 31(4), 833-863.
- Lane, P.J. and Lubatkin, M. (1998) 'Relative absorptive capacity and inter-organisational learning', *Strategic Management Journal*, 19, 461-477.
- Lane, P.J., Salk, J.E. and Lyles, M.A. (2001) 'Absorptive capacity, learning and performance in international joint ventures', *Strategic Management Journal*, 22, 1139-1161.
- Langston, C.M. and Teas, R.K. (1976) 'Export commitment and characteristics of management' paper presented at the *Annual Meeting of the Midwest Business Association*, St Louis, MO.
- Larimo, J. (1985) 'The foreign direct manufacturing investment behaviour of Finnish companies' paper presented at the *European International Business Association Conference*, Glasgow, December.
- Larson, A. (1992) 'Network dyads in entrepreneurial settings: a study of governance of exchange relationships', *Administrative Science Quarterly*, 37, 76 – 104.
- Larsson, E., Hedelin, L., Garling, T. (2003) 'Influence of expert advice on expansion goals of small businesses in rural Sweden', *Journal of Small Business Management*, 41 (2), 205–212.
- Lasch, F. Roy, L. and Yami, S. (2007) 'Critical growth factors of ICT start-ups' *Management Decision*, 45(1), 62-75.
- Lavie, D. (2007) 'Alliance portfolios and firm performance: a study of value creation and appropriation in the US software industry', *Strategic Management Journal*, 28, 1187-1212.
- Lawrence, J. and Lorsch, J. (1969) *Organisations and environment: managing differentiation and integration*, Illinois: Irwin.
- Le, S. and Boyd, R. (2006) 'Evolutionary dynamics of the continuous iterated Prisoner's dilemma', *Journal of Theoretical Biology*, 245(2), 258–267.
- Leavitt, H. J. and Whistler, T.L. (1958) 'Management in the 1980s', *Harvard Business Review*, Nov/Dec, 43.

- Lecocq, X. and Yami, S. (2002) 'From value chain to value networks: towards a new strategic model' in Lundan, S. M., ed., *Network Knowledge in International Business*, Cheltenham UK: Edward Elgar.
- Lee, C. and Beamish, P. W. (1995) 'The characteristics and performance of Korean joint ventures in LDCs', *Journal of International Business Studies*, 26(3), 637-654.
- Lee, C., Lee, K. and Pennings, J. M. (2001) 'Internal resources, external networks and performance: a study of technology based ventures', *Strategic Management Journal*, 22, 615-640.
- Lee, J.W. (1991) 'Swedish firms entering the Korean Market – position development in distant industrial networks' doctoral dissertation, Department of Business Studies, Uppsala University, Uppsala.
- Leech, N. L., Barrett, K. C. and Morgan, G. A. (2005) *SPSS for intermediate statistics; Use and Interpretation*, USA: Lawrence Albaum Associates.
- Lefebvre, E., Lefebvre, L. A. and Bourgault M. (1998) 'R&D-related capabilities as determinants of export performance' *Small Business Economics*, 10 (5), 365-377.
- Leonard-Barton, D. (1992) 'Core capabilities and core rigidities: A paradox in managing new product Development', *Strategic Management Journal*, 13, 111–125.
- Leonidou, L.C. (1989) 'Behavioural aspects of the exporter-importer relationship: The case of Cypriot exporters and British importer', *European Journal of Marketing*, 23 (7), 17-33.
- Leonidou, L.C. (1995) 'Export stimulation: a non-exporter's perspective', *European Journal of Marketing*, 29(8), 17 – 36
- Leonidou, L.C. (1999) 'Barriers to international purchasing: the relevance of firm characteristics', *International Business Review*, 8, 487 – 512.
- Leonidou, L.C. and Katsikeas, C. S. (1996) 'The export development process: an integrative review of empirical models', *Journal of International Business Studies*, 27(3), 517 – 551.
- Leonidou, L.C., Katsikeas, C. S, and Samiee, S (2002) 'Marketing strategy determinants of export performance: a meta-analysis', *Journal of Business Research*, 55 (1), 51-67.
- Lerner, M., Brush, C. and Hisrich, R. (1997) 'Israeli women entrepreneurs: an examination of factors affecting performance', *Journal of Business Venturing* 12 (4), 315–339.
- Leung, T., Wong, Y.H. and Wong, S. (1996): 'A study of Hong Kong businessmen's perceptions of the role of *Guanxi* in the people's Republic of China', *Journal of Business Ethics*, 15, 749-758.
- Levitt, T. (1983) 'The globalisation of markets', *Harvard Business Review* 91(3), 92 – 102.
- Leyden, T. (2007) Examination of the effectiveness of Irish trade promotion abroad and the state agencies involved, Joint Committee on Enterprise and Small Business, tenth report, March, Dublin.
- Li, J. and Guisinger, S. (1991) 'Comparative business failures of foreign controlled firms in the United States', *Journal of International Business Studies*, 22(2), 209-224.
- Li, P. C. and Lin, B. W. (2006) 'Building global logistics competence with Chinese OEM suppliers', *Technology in Society* 28, 333-348.
- Li, T. and Calantone, R. J. (1998) 'The impact of market knowledge competence on new product advantage: conceptualization and empirical examination', *Journal of Marketing*, 62, (October), 13 – 29.
- Lieberman, M. B., Lau, L. J. and Williams, M. D. (1990) 'Firm-level productivity and management influence: a comparison of U.S. and Japanese automobile producers', *Management Science*, 36, 1193–1215.
- Lim, J. S., Sharkey, T. W. and Kim, K. I. (1991) 'An empirical test of the export adoption model', *Management International Review* 31(1), 51-62.

- Limerick, D. and Cunnington, B. (1993) *Managing the New Organisation*, West Chatswood: Business and Professional Publishing,
- Lin, K. H. and Lawton, T. C. (2006) 'Domestic inter-firm networks and cooperate internationalisation: a cross-industry study of Taiwanese SMEs' paper presented at *The Irish Academy of Management Annual Conference*, University College Cork, Ireland, Sept 6 – 8.
- Lind, J. (2004) 'Convergence: history of term usage and lessons for firm strategists', Proceedings of 15th Biennial ITS Conference, Berlin.
- Lindell, M. and Karagozolu, N. (1997) 'Global strategies of US and Scandinavian R&D intensive small and medium sized companies', *European Management Journal*, 15(1), 92–101.
- Lindert, P.H. (1986) *International Economics*, Homewood: IL Irwin.
- Lindqvist, M. (1997) 'Infant multinationals: internationalisation of small technology-based firms' in Jones, D. and Klofsten, M., eds., *Technology, innovation and enterprise: The European experience*.
- Litvak, I. (1990) 'Instant international: strategic reality for small high-technology firms in Canada', *Multinational Business*, 2(Summer), 1–12.
- Loane, S. and Bell, J. (2006) 'Rapid internationalisation among entrepreneurial firms in Australia, Canada, Ireland and New Zealand – An extension to the network approach', *International Marketing Review*, 23 (4), 467- 485.
- Loane, S. and Bell, J. (2009) 'Clients as hidden resources in rapid internationalisation' in Jones et al., (eds), *Internationalisation, Entrepreneurship and the Smaller Firm*, UK: Edgar Elgar Publishing LTD.
- Loane, S., Bohnsack, R. and Bell, J. (2008) 'The internationalisation of small life science enterprises in the mecklenburg-western Pomerania region of Germany', paper presented at the *Academy of International Business UK and Ireland Chapter*, 35th Annual Conference, University of Portsmouth, UK, March 28 – 29th.
- Loane, S., Bell, J and Cunningham, I. (2009) 'New wave globals: the dynamic capabilities of digital content firms' paper presented at the *Academy of International Business UK and Ireland Chapter*, 36th Annual Conference, University of Glasgow, Scotland, April 1-3rd.
- Lorange, P. and Roos, J. (1992) *Strategic alliances: formation, implementation and evolution*, Cambridge MA: Blackwell.
- Lorenzo, G. and Lipparini, A. (1999) 'The leveraging of inter-firm relationships as a distinct organisation capability', *Strategic Management Journal*, 20 (4).
- Loxton, R. and Weerawardena, J. (2006) 'Examining the role of networking capability in small and medium size firm internationalisation' paper presented at *the Academy of International Business Annual Conference*, Beijing, China. June 23-26.
- Lu, J.W. and Beamish, P.(2001) 'The internationalisation and performance of SMEs', *Strategic Management Journal* 22, 565–586.
- Lu, J.W. and Beamish, P.W. (2004) 'International diversification and firm performance: The s curve hypotheses', *Academy of Management Journal*, 47(4), 598-609.
- Lundgren, A. (1995) *Technological Innovation and Network Evolution*, London: Routledge
- Luo, Y. (1997) 'Guanxi and Performance of Foreign-Invested Enterprises in China', *Management International Review* 37(1), 51-70.
- Luostarinen, R. (1991), 'Development of strategic thinking in international business, in Nasi, J. (Ed), *arenas of strategic thinking, foundation for economic education*, Helsinki.
- Luostarinen, R. (1980)'The internationalisation of the firm', *Acta Academia Series A* 30,

Helsinki School of Economics, Helsinki.

- Lyles, M. A., Sulaiman, M., Barden, J. Q. and Kechik, A. (1999) 'Factors affecting international joint venture performance: A study of Malaysian joint ventures', *Journal of Asian Studies*, 15(2), 1–20.
- MacCallum, R. C., Browne, M. W. and Sugawara, H. M. (1996) 'Power analysis and determination of sample size for covariance structure modelling', *Psychological Methods*, 1(2)130-149.
- MacCallum, R.C. and Browne, M. (1993) 'The use of causal indicators in covariance structure models: some practical issues', *Psychological Bulletin*, 114(3), 533-541.
- MacKenzie, R. (2008) 'From networks to hierarchy: the construction of a subcontracting regime in the Irish Telecommunications Industry', *Organisation Studies* (Online First) published on April 15, 2008 as doi: 10.1177/0170840608088706.
- Macneil, I. (1980) *The New Social Contract, An Inquiry into Modern Contractual Relations*, New Haven, CT: Yale University Press,
- Madhok, A. (1995) 'Opportunism and trust in joint venture relationships: an exploratory study and model', *Scandinavian Journal of Management*, 11(1), 57-74.
- Madhok, A. (1997) 'Cost, value and foreign market entry mode: the transaction and the firm', *Strategic Management Journal*, 18, 39-61.
- Madhok, A. and Tallman, S. B (1998) 'Resources, transactions, and rents; managing value through inter-firm collaboration relationships', *Organisation Science*, 9 (3), 326-339.
- Madsen, T. K. (1987) 'Empirical export performance studies; a review of conceptualisations and findings', in Cavusgil, S.,ed., *Advances in International Marketing*, vol 2, Greenwich CT: JAI Press.
- Madsen, T.K. and Servais, P. (1997) 'The internationalisation of born globals: an evolutionary process?', *International Business Review*, 6(6), 561-583
- Majkgård, A., and Sharma, D.D. (1998) 'Client-following and market-seeking strategies in the internationalisation of service firms', *Journal of Business-to- Business Marketing*, 4 (3), 1–41.
- Malecki, E. J. and Veldhoen, M. E. (1993) 'Network activities, information and competitiveness in small firms', *Geografiska Annaler*, 75 (B 3), 131-148.
- Malerba, F. and Marengo, L. (1995) 'Competence, innovative activities and economic performance in Italian high-technology firms', *International Journal of Technology Management*, 10(4/5/6), 461– 77.
- Malhotra, N. K. (2007) *Fundamentals of marketing research* London: Sage Publications.
- Mangan, J., Lalwani, C. and Gardner, B (2004) 'Combining quantitative and qualitative methodologies in logistics research', *International Journal of Physical Distribution & Logistics Management*, 34(7), 565-578.
- Manolova, T.S., Brush, C.G., Edelman, L.F. and Greene, P.G. (2002) 'Internationalisation of small firms: International factors revisited', *International Small Business Journal*, 20(1), 9– 13.
- Marriotti S and G C Cainarca, (1986) 'The evolution of transaction governance in the textile-clothing industry', *Journal of Economic Behaviour and Organisation*, 7, 351 - 374.
- Marsden, P. (1981) 'Introducing influence processes into a system of collective decisions', *American Journal of Sociology* 86(6), 1203-1235.
- Marsh, H. W., Hau, K.T., Balla, J. R. and Grayson, D. (1998) 'Is more ever too much? The number of indicators per factor in confirmatory factor analysis', *Multivariate Behavioural Research*, 33(2), 181-220.

- Marshall, G. W., Goebel, D. J and Moncrief, W. C. (2003) 'Hiring for success at the buyer-seller interface', *Journal of Business Research*, 56(4), 247 – 255.
- Martinez, J. I. and Jarillo, J. C. (1989) 'The evolution of research on coordination mechanisms in multinational corporations', *Journal of International Business Studies*, 20(3), 489-514.
- Martínez, Z. and Toyne, B. (2000) 'What is international management, and what is its domain?' *Journal of International Management*, 6, 11-28.
- Martinusson, J. (1994) 'More than an end in itself: the export network as a stepping stone', *Firm Connections*, May/June.
- Matthieu, J. E. and Farr, J. L. (1991) 'Further evidence for the discriminant validity of measures of organisational commitment, job involvement, and job satisfaction', *Journal of Applied Psychology*, 76, 127 – 133.
- Matthieu, J. E., Tannenbaum, S. I. and Salas, E. (1992) 'Influences of individual and situational characteristics on measures of training effectiveness', *Academy of Management Journal*, 35, 828- 847.
- Matthyssens, P. and Pauwels, P. (1996) 'Assessing export performance measurement.' in Cavusgil, S. T. and Madsen T. K.,eds., *Advances in International Marketing*, New York: JAI Press, 85-114.
- Mattsson, L. G. (1985) 'An application of a network approach to marketing: defending and changing market positions' in Dholakia, N. and Arndt, J.,eds., *Research in Marketing - Changing the Course of Marketing: An Alternative Paradigms for Widening Marketing Theory*, Supplement 2, Greenwich Connecticut : JAI Press, 263 – 288.
- Mc Allister, D. J. (1995) 'Affect and cognition based trust as foundations for interpersonal cooperation in organisations', *Academy of Management Journal*, 38 (1), 24-59.
- Mc Auley, A. (1999) 'Entrepreneurial instant exporters in the Scottish arts and craft sector' *Journal of International Marketing*, 7(1), 11-17.
- Mc Dougall, P. (1989) 'International versus domestic entrepreneurship: new venture strategic behaviour and industry structure', *Journal of Business Venturing*, 4, 387–400.
- Mc Dougall, P., Shane, P. and Oviatt, B.M. (1994) 'Explaining the formation of international new ventures: the limits of theories from international business research', *Journal of Business Venturing*, 469 – 487.
- Mc Evily, B. and Zaheer, A. (1999) 'Bridging ties: a source of heterogeneity in competitive capabilities', *Strategic Management Journal*, 20 , 1133-1156.
- Mc Kiernan, P. (1992) *Strategies for growth, maturity, recovery and internationalisation*, London: Routledge.
- Mc Naughton, R. B. and Bell, J. (2001) 'Competing from the periphery: export development through hard business network programmes' *Irish Marketing Review*, 14(1), 43-55.
- McKinley, W., Mone, M. and Moon, G. (1999) 'Determinants and development of schools in organisation theory', *Academy of Management Review*, 24, 634-648.
- McKinsey and Co. (1993) *Emerging Exporters*, Melbourne: Australian Manufacturing Council.
- Medlin, C. J. (2006) 'Self and collective interest in business relationships', *Journal of Business Research*, 59, 858-865.
- Melin, L. (1992), 'Internationalisation as a strategy process', *Strategic Management Journal*, 13, 99 - 118
- Menon, A., Bharadwaj, S. G., Adidam, P. T. and Edison, S. W. (1999) 'Antecedents and consequences of marketing strategy making: a model and a test,' *Journal of Marketing*, 63(2), 18-40.

- Merrilees, B., Miller, D. and Tiessen, J. (1998) 'Serendipity, leverage and the process of entrepreneurial internationalisation', *Small Enterprise Research*, 6(2), 3–11.
- Mesarovic, M. and Pestel, E. (1974) *Mankind at the turning point: the second paper to the club of Rome*, New York: Readers Digest Press,
- Metcalf, L.E., Frear, C.R. and Krishnan, R. (1992) 'Buyer-seller relationships: an application of the IMP interaction model' *European Journal of Marketing*, 26 (2), 27-46.
- Meyer, K. (2001) 'Institutions, transaction costs, and entry mode choice in Eastern Europe', *Journal of International Business Studies* 32, 357–367.
- Meyer, K. and Gelbuda, M. (2006) 'Process perspectives in international business research in CEE', *Management International Review* 46 (2), 143–164.
- Meyer, K. and Skak, A. (2002) 'Networks, serendipity and SME entry into Eastern Europe', *European Management Journal* 20 (2), 179–188.
- Meyer, R. (1998) 'The role of networking in the internationalisation process of small and medium sized enterprises', PhD Dissertation, University College Dublin, Ireland.
- Michael D (1973) *On learning to plan and planning to learn*, San Fransisco: Jossey-Bass.
- Miesenbock, K. J. (1988) 'Small business and exporting: a literature review', *International Small Business Journal* 6(2), 42-61.
- Miles, R. E. and Snow, C. C. (1986) 'Organisations: new concepts for new forms', *California Management Review*, xxvii (3 Spring), 62 - 73.
- Miller, J. G. (1972) 'Living systems: the organisation' *Behavioural Science* 17(1), 1 - 182
- Millington, A.I. and Bayliss, T. (1990) 'The process of internationalisation: UK companies in the EC', *Management International Review*, 30 (2), 151-61.
- Mintzberg, H. (1979) *The Structuring of Organisations*, New Jersey: Prentice Hall.
- Mitchell, W. (2000) 'Alliances: achieving long-term value and short-term goals' *Financial Times Mastering Strategy Series: The Complete MBA Companion in Strategy*. London: Pearson Education, 351-356.
- Mitchell, W. and Singh, K. (1996) 'Survival of businesses using collaborative relationships to commercialize complex goods', *Strategic Management Journal*, 17(3), 169-196.
- Mitford, J. (1997) 'A Strategic response to post-Fordism for the SME service sector' Tyneside Training and Enterprise Council (Online) Synthesis Web Journal , <http://www.scenario-planning.com>, accessed on 01/05/06.
- Moen, O., Gavlen, M. and Endresen, I. (2004) 'Internationalisation of small, computer software firms: entry forms and market selection', *European Journal of Marketing*, 38(9-10), 1236-1251
- Mohr, J. and Nevin, J. R. (1990) 'Communication strategies in marketing channels: a theoretical perspective', *Journal of Marketing*, 54, 36-51.
- Mohr, J. and Spekman, R. (1994) 'Characteristics of partnership success', *Strategic Management Journal*, 15(2) 135-152.
- Moller, K. and Hallinen, A. (1999) 'Business relationships and networks: managerial challenge of network era', *Industrial Marketing Management*, 28, 413-427.
- Moller, K. and Svahn, S. (2006) 'Role of knowledge in value creation in business nets', *Journal of Management Studies*, 43(5), 985-1007.
- Moller, K. and Törroenen, P. (2003) 'Business Suppliers' Value Creation Potential: A Capability Based Analysis', *Industrial Marketing Management*, 32, 109-118.
- Möllering, G., Bachman, R. and Lee, S. H (2004) 'Introduction understanding organisational trust – foundations, constellations, and issues of operationalisation', *Journal of Managerial Psychology*, 19(6), 556-570.

- Moon, J and Lee, H. (1990) 'On the internal correlates of export stage development: an empirical investigation in the Korean electronics industry', *International Marketing Review*, 7(5), 16-26.
- Moore, G. (1999). *Crossing the chasm*. New York: Harper Business.
- Moorman, C. and Miner, A. S. (1997) 'Organisational improvisation and organisational memory', *Academy of Management Review*, 23(October), 698–723.
- Moorman, C., Deshpande, R. and Zaltman, G. (1993) 'Factors affecting trust in market research relationships', *Journal of Marketing*, 57(21 Jan), 81-102.
- Moran, P. (2005) 'Structural Vs relational embeddedness: social capital and managerial performance', *Strategic Management Journal*, 26, 1129 – 1151.
- Morck, R. and Yeung, B. (1991) 'Why investors value multinationality', *Journal of Business*, 64(2), 165-187.
- Morgan, N. A., Kaleka, A. and Katsikeas, C.S. (2004) 'Antecedents of export venture performance: a theoretical model and empirical assessment', *Journal of Marketing*, 68 (January), 90-108.
- Morgan, R. M. and Hunt, S. D. (1994) 'The Commitment-trust theory of relationship marketing', *Journal of Marketing*, 58 (July), 20 – 38.
- Morris, M.W., Leung, K., Ames, D. and Lickel, B. (1999) 'Views from inside and outside: integrating emic and etic insights about culture and justice judgment', *Academy of Management Review* 24(4), 781–796.
- Moss Kanter, R (1994) 'Collaborative advantage: the art of alliances', *Harvard Business Review*, July-August.
- Mowery, D. C., Oxley, J. E. and Silverman, B.S. (1996) 'Strategic alliances and inter-firm knowledge transfer', *Strategic Management Journal*, 17, 77-92.
- Murto-Kovisto, E. and Vesalainen, J. (1994) 'Network management and inter-firm cooperation' Discussion Paper no. 172, University of Vassa, Finland.
- Myers, M.B. (1999) 'Incidents of gray market activity among U.S. exporters: occurrences, characteristics, and consequences', *Journal of International Business Studies*, 30 (1), 105-26.
- Nahapiet, G. and Ghoshal, S. (1998) 'Social capital, intellectual capital and the organisation advantage', *Academy of Management Review*, 38,(2), 242-266.
- Naisbitt, J. (1982) *Megatrends: Ten New Directions Transforming our Lives*, New York: Warner Books.
- Nakos, G. and Brouthers, K.D. (2002) 'Entry mode choice of SMEs in Central and Eastern Europe', *Entrepreneurship Theory and Practice* 27 (1), 47–63.
- Nalebuff, B. J. and Brandenburger, A. M. (1997) 'Coopetition: competitive and cooperative business strategies for the digital economy', *Strategy and Leadership*, Nov/Dec, 28 - 35.
- Narver, J. C. and Slater, S. F. (1990) 'The effect of a market orientation on business profitability', *Journal of Marketing*, 54, 20-35.
- NCC, (1999) Annual Competitiveness Report 1999, Dublin: Forfás.
- Neergard, H. (2005) 'Networking activities in technology based entrepreneurial firms', *International Small Business Journal*, 23 (3), 257-278.
- Nelson, R. R. and Winter, S. G. (1982) *An Evolutionary Theory of Economic Change*, Cambridge MA: Belknap Press of Harvard University Press.
- NESC (National Economic and Social Council), (1996) 'Networking for competitive advantage', Proceedings from the *NESC Seminar*, Research Series, NESC, Dublin
- Neuman, W. (1997) *Social Research Methods: Qualitative and Quantitative Approaches*, Needham Heights: CA. Allyn & Bacon.

- Nohria, N. and Eccles, R. G. (1992) *Networks and Organisations: Structure, Form, and Action*, MA: Harvard Business School Press.
- Nohria, N. and Garcia-Pont, C. (1991) 'Global strategic linkages and industry structure', *Strategic Management Journal*, Summer Special Issue 12, 105-124
- Nonaka, I. (1994) 'A dynamic theory of organisational knowledge creation', *Organisation Science*, 5, 14-37.
- Nooteboom, B. (1999) 'The dynamic efficiency of networks', in Grandori, A., ed., *Interfirm Network: Organisation and Industrial Competiveness*, London: Routledge.
- Nordstrom, K. A. (1990) *The internationalisation process of the firm in a new perspective*, Stockholm: Institute of International Business.
- Normann, R. and Ramirez, R. (1993) 'From value chain to value constellation', *Harvard Business Review* 71(4):65–77.
- Nosella, A., Petroni, G. and Verbano, C. (2006) 'Innovation development in biopharmaceutical start-up firms: An Italian case study', *Journal of Engineering and Technology Management* 23 (3) ,202-220.
- Nummela, N., Loane, S. and Bell, J. (2006) 'Change in SME Internationalisation: An Irish Perspective' *Journal of Small Business and Enterprise Development*, 13 (4), 562-583.
- Nunnally, J. C. (1978) *Psychometric theory* (2nd ed.). New York: McGraw Hill.
- Nyström, A.G. and Hacklin, F (2005) 'Operator value-creation through technological convergence: the case of VOIP' (online) http://userpage.fuberlin.de/~jmueller/its/conf/porto05/papers/nystroem_hacklin.pdf, accessed on 26/04/09.
- OCED (1998) *Globalisation and small and medium enterprises (SMEs): Synthesis Report, 1*, Paris, OECD.
- O Doherty, D. (1995) *Globalisation, networking and small firm innovation*, London: Graham and Trotman.
- O Doherty, D. (1998) 'Networking in Ireland – policy response, in sustaining competitive advantage' Proceedings from the *NESC Seminar*, Research Series, NESC, Dublin.
- O'Donnell, A. (2004) 'The nature of networking in small firms', *Qualitative Market Research: An International Journal*, 7(3), 206-217.
- O Farrell, P.N. and Hitchins, P.W.N. (1988) 'Alternative theories of small firm growth: a critical review', *Environment and Planning*, 20, 365–382.
- O'Reilly, C. A. and Tushman, M. L. (2004) 'The ambidextrous organisation', *Harvard Business Review*, April, 74 – 81.
- OECD, (2004) *ICT, E-Business and SMEs*, Organisation for Economic Cooperation and Development, Paris
- OECD, (2007) *The OECD Communications Outlook 2007*, Paris: OECD
- OECD, (2009) *Top Barriers and Drivers to SME Internationalisation*, Report by the OECD Working Party on SMEs and Entrepreneurship, OECD.
- Oh, J. (1996) 'Global strategic alliances in the telecommunications industry', *Telecommunications Policy*, 20(9):713-720.
- Ohmae, K. (1985) *Triad power: the coming shape of global competition*, New York: The Free Press.
- Oppenheim, A. (1972) *Questionnaire design and attitude measurement*, London: Heinemann.

- Orlikowski, W.J. and Baroudi, J.J. (1991) 'Studying information technology in organisation: research approaches and assumptions', *Information Systems Research*, 2 (1), 1-14.
- Osterle, M.J. (1997) 'Time span until internationalisation: foreign market entry as a built-in mechanism of innovation', *Management International Review*, 37(2), 125-149.
- Ouchi, W.G. and Bolton, M. (1988) 'The logic of joint research and development', *California Management Review*, Spring, 9 - 33.
- Overby, J. W. and Min, S. (2001) 'International supply chain management in an Internet environment: a network oriented approach to internationalisation', *International Marketing Review*, 18(4), 392 – 420.
- Oviatt, B. M. and Mc Dougall, P.P. (1994) 'Toward a theory of international new ventures', *Journal of International Business Studies* 25, 145 – 64
- Pan, Y. and Tse, D. K. (1996) 'Cooperative strategies between foreign firms in an overseas country' *Journal of International Business Studies*, 27, 929-946.
- Pan, Y., Li, S. and Tse, D. K. (1999) 'The impact of order and mode of market entry on profitability and market share' *Journal of International Business Studies*, 30, 81-104.
- Paasche, T., Pettersen, A. and Solem, O. (1993) 'Network theory – a critical review' in Virtanen, M.,ed.,*The Development and the Strategies of SMEs*, Mikkeli, Finland: Helsinki School of Economics and Business Administration, 175-87.
- Palmer, A. and Bejou, D. (1994) 'Buyer-seller relationships: a conceptual model and empirical investigation', *Journal of Marketing Management*, 10, 495-512.
- Parkhe, A. (1993) 'Strategic alliance structuring: a game theoretic and transaction cost examination of interfirm cooperation', *Academy of Management Journal*, 36(4), 794-829.
- Pavord, W. C. and Bogart, R. G. (1975) 'The dynamics of the decision to export', *Akron Business and Economic Review*, 6, 6-11.
- Pedhazurm E. and Schmelkin, L. (1991) *Measurement, design and analysis: an integrated approach*. Hillsdale, NJ: Lawrence Erlbaum Associates;
- Peng, M. (2004) 'Identifying the big question in international business research', *Journal of International Business Studies*, 35(2): 99-108.
- Peng, M.W. (2001) 'The resource-based view and international business', *Journal of Management*, 27(6), 803-829.
- Pennings, J., Kranenburg, H, van, and Hagedoorn, J. (2005) 'Past, present and future of the telecommunications industry' in DalZotto, C.,ed., *The Aging New Economy: The Growth and Dynamics of Maturing New Media Firms*, Jönköping, Jönköping University Press.
- Pennings, J.M. and Puranam, P. (2001) 'Market Convergence & Firm Strategy: New Directions for Theory and Research' in Proceedings of the ECIS Conference, Eindhoven, Netherlands,.
- Penrose, E.T. (1952) 'Biological analogies in the theory of the firm', *American Economic Review*, 42(5), 804-819.
- Penrose, E.T. (1959) *The Theory of the Growth of the Firm*, Oxford: Basil Blackwell.
- Perkett, W.O. (1963) 'An analysis of the obstacles to increased foreign trade confronting British Columbia industrial machinery manufacturers' Phd Dissertation, University of Washington, Seattle WA.
- Perlmutter, H. V. (1969) 'The tortuous evolution of the multinational corporation', *Columbia Journal of World Business*, 4, 9-18.
- Perlmutter, H. V. and Heenan, D. A. (1994) 'Cooperate to compete globally' in Barnevik, P. and Moss Kanter, R.,eds., *Global Strategies: Insights from the World's Leading Thinkers*, USA: Harvard Business Review.

- Perroux, F.. (1973) 'Pouvoir et Economie' Paris, Bordas,
- Perrow, C. (1967) 'A framework for the comparative analysis of organisations', *American Sociological Review* 32, 194 - 208
- Perry, C. (1998) 'Processes of a case study methodology for postgraduate research in marketing', *European Journal of Marketing*, 32 (9/10), 785-802.
- Perry, C. (2002) 'Case research in marketing' *The Marketing Review*, No. 1.
- Perry, C., Riege, A. and Brown, L. (1999) 'Realism's role among scientific paradigms in marketing research', *Irish Marketing Review*, 12 (2), 16-23.
- Petersen, B. and Welch, L.S. (2002) 'Foreign operation mode combinations and internationalisation', *Journal of Business Research*, 55 (2), 157-62.
- Pettigrew, A.M. (1990) 'Longitudinal field research on change: theory and practice', *Organisation Science*, 1265-1292.
- Pfeffer, J. and Nowak, P. (1976) 'Joint Ventures and inter-organisational dependence', *Administrative Science Quarterly*, 21, 398 - 418.
- Pfeffer, J. and Salancik, G. (1978) *The external control of organisations: a resource dependence perspective*, New York: Harper & Row.
- Phiri, T. (2003) 'Export competitiveness through use of networks as source of market information in small exporting firms: a conceptual framework', paper presented at the *Sixth Mc Gill Conference on International Entrepreneurship: Crossing Boundaries and Researching New Frontiers*, University of Ulster Magee Campus, Northern Ireland, September 10 – 22.
- Piercy, N., Kaleka, A. and Kasikeas, C. S. (1998) 'Sources of competitive advantage in high performing exporting companies', *Journal of World Business*, 33(4), 378-393.
- Ping, R. A. (2007) 'Is there any way to improve Average Variance Extracted in a Latent Variable?' (online)<http://home.at.net/~rpingjr/LowAVE.doc>., accessed on 24/10/08
- Ping, R. A. (2009) 'Is there any way to improve Average Variance Extracted (AVE) in a Latent Variable (LV) X' (Revised)?" [on-line paper].
<http://home.att.net/~rpingjr/ImprovAVE1.doc>) accessed on 03/03/09
- Pinney, J. K. (1968) 'The process of commitment to foreign trade in selected smaller Indiana manufacturing firms', Phd Dissertation, Indiana University IN.
- Pitt, L., Cruana, A. and Berthon, P. R. (1996) 'Market orientation and business performance: some European evidence', *International Marketing Review*, 13(1), 24-59.
- Podolny, J. M. (2001) 'Networks as the pipes and prisms of the market', *American Journal of Sociology*, 107, (1), 33 – 60.
- Podsakoff, P. M., Mackenzie, S. B., Lee, J. and Podsakoff, N. P. (2003) 'Common method biases in behavioural research: A critical review of the literature and recommended remedies', *Journal of Applied Psychology*, 88, 879-903.
- Pointon, T (1977) 'Economics of government export promotion', PhD Thesis, Cranfield.
- Porac, J. and Rosa, J.A. (1996) 'In praise of managerial narrow-mindedness', *Journal of Management Inquiry*, 5 (1), 35-42.
- Porter, M. E. (1985) *Competitive Advantage*, New York: Free Press.
- Porter, M.E. (1980) *CompetitivesStrategy: techniques for analysing industries and competitors*, USA: The Free Press.
- Porter, M.E. (1986) 'Competition in global industries: a conceptual framework' in Porter, M.E.,ed., *Competition in Global Industries* , Boston Mass: Harvard Business School Press.
- Porter, M.E. (1996) 'What is strategy?' *Harvard Business Review*, November/December, 61-78.

- Portes, A. (1998) 'Social capital: its origins and applications in modern sociology', *Annual Review of Sociology*, 24(1), 1-24.
- Portes, A. and Sensenbrenner, J. (1993) 'Embeddedness and immigration: Notes on the social determinants of economic action', *American Journal of Sociology*, 98(6), 1320-1350.
- Potts, A.J. (1977) 'A study of the success and failure rates of small businesses and the use or non-use of accounting information' PhD Thesis, The George Washington University.
- Powell, W. (1987) 'Hybrid organisational arrangements', *California Management Review*, 30, 67 – 86.
- Powell, W. W. (1990) 'Neither market nor hierarchy: network forms of organisation', *Research in Organisational Behaviour*, 12, 295 – 336.
- Powell, W. W., Kogut, K. W. and Smith-Doerr, L. (1996) 'Inter-organisational collaboration and the locus of innovation: networks of learning', *Administrative Science Quarterly*, 41, 116-145.
- Powell, W.W., White, D.R., Koput, K.W., and Owen-Smith, J. (2005) 'Network dynamics and field evolution: The growth of interorganisational collaboration in the life sciences', *American Journal of Sociology*, 110(4), 1132-1206.
- Prahalad, C K. and Hamel, G. (1990) 'The core competence of the corporation', *Harvard Business Review*, 68, 79-91.
- Prahalad, C. K. and Doz, Y. (1987) *The multinational mission: balancing local demands and global vision*, New York: Free Press,
- Prashantham, S. (2004) 'Indian perspectives on international entrepreneurship' in Dana, L.P., ed., *Handbook of Research on International Entrepreneurship*, Northampton, MA: Edgar Elgar.
- Preece, J., Rogers, Y., Sharpe, H., Benyon, D., Holland, S. and Carey, T. (1994) *Human-computer interaction*, Wokingham, UK: Addison-Wesley.
- Preston, L.E., and Donaldson, T. (1999) 'Stakeholder management and organisational wealth' *Academy of Management Review*, 24(4), 619-25.
- Pruitt, D. G. (1981) *Negotiating Behaviour*. Academic Press.
- Pyke, F. (1994) 'Small firms, technical services, and inter-firm cooperation', *Research Series* (99): Geneva, International Institute for Labour Studies.
- Qian, G. (2002) 'Multinationality, product diversification, and profitability of emerging US small- and medium-sized enterprises', *Journal of Business Venturing*, 17(6), 611-633.
- Quinn, R.E. and Cameron, K. (1983) 'Organisational life cycles and shifting criteria of effectiveness: some preliminary evidence', *Management Science*, 29 (1), 33-51
- Rao, T.R. and Naidu, G.M. (1992) 'Are the stages of internationalisation empirically supportable?', *Journal of Global Marketing*, 6 (1/2), 147-70.
- Rasmussen, E.S., Madsen, T.K. and Evangelista, F. (2001) 'The founding of the born global company in Denmark and Australia: sensemaking and networking', *Asia Pacific Journal of Marketing and Logistics*, 13 (3), 75-107.
- Rebiere, P. (1994) 'Les alliances' *direction et gestion des entreprises*, 149 sept/oct, 6 - 11.
- Reid, S. (1980) 'A behavioural approach to export decision-making' Proceedings of the American Marketing Association Educators' Conference, Series No. 46, 265–268.
- Reid, S. (1981) 'The decision-maker and export entry and expansion', *Journal of International Business Studies*, 12 (2), 101-12.
- Reid, S. D. (1983) 'Firm internationalisation, transaction costs and strategic choice', *International Marketing Review* 1 (2), 44-56.

- Reid, S.D. (1984) 'Market expansion and firm internationalisation' in. Kaynak, E.,ed., New York: Praeger, 197 - 206.
- Reijnders, W. J. M. and Verhallen, T. M. M. (1996) 'Strategic alliances among small retailing firms: empirical evidence for the Netherlands', *Journal of Small Business Management* 34(1).
- Rennie, M.W. (1993) 'Born globals', *McKinsey Quarterly*, 4, 45–52.
- Reuber, R. and Fisher, E. (1997) 'The influence of the management team's international experience on the internationalisation behaviours of SMEs', *Journal of International Business Studies*, 28(4), 807–826.
- Reuer, J. (2000) 'Collaborative strategy: the logic of alliances', *Financial Times Mastering Strategy Series - The Complete MBA Companion in Strategy*. London: Pearson Education, 346-350.
- Riesenbeck, H. and Freeling, A. (1991) 'How global are global brands?' *Mc Kinsey Quarterly*, 4, 3 – 18.
- Rindfleisch, A. and Moorman, C. (2001), The acquisition and utilization of information in new product alliances: a strength of tie perspective, *Journal of Marketing*, 65(2), 1-19.
- Rindfleisch, A., and Heide, J. B. (1997) 'Transaction cost analysis: past, present, and future applications', *Journal of Marketing*, 61(4), 30–54.
- Ring, P.S. and Van de Ven, A. (1994) 'Development processes of cooperative inter-organisational relationships', *Academy of Management Review*, 19, 90-118.
- Ritter, T and Gemünden, H. G. (2003) 'Network competence: it's impact on innovation success and its antecedents', *Journal of Business Research*, 56(9), 545 – 755.
- Ritter, T. (1999) 'The networking company: antecedents for coping with relationships and networks effectively', *Industrial Marketing Management*, 28(5), 467 –79.
- Ritter, T. and Gemünden, H. G. (2004) 'The impact of a company's business strategy on its technological competence, network competence and innovation Success', *Journal of Business Research*, 57, 548 – 556.
- Ritter, T., Wilkinson, I. F. and Johnston, W. J. (2002) 'Measuring network competence: some international evidence', *Journal of Business and Industrial Marketing* 17(2/3), 119 – 138.
- Robertson, C. and Chetty, S. (2000) 'A contingency based approach to understanding export performance', *International Business Review*, 9(2), 211-235.
- Robinson, R. D. (1986) 'Some new competitive factors in international marketing' in Cavusgil, S.T.,ed., *Advances in International Marketing*, Greenwich: JAI press ,1, 1-20.
- Robson, P.J.A. and Bennett, R.J. (2000) 'SME growth: the relationship with business advice and external collaboration', *Small Business Economics*, 15 (3), 193–208.
- Roethlisberger, F. J. (1977) *The elusive phenomena*, Boston: Harvard Business Scholl Press.
- Roethlisberger, F. L. and Dickson, W. J. (1939) *Management and the worker*, Boston: Harvard University Press
- Rogers, D.L. (1974) 'Toward a scale of inter-organisational relations: application of theory and measurement', *Rural Sociology*, 39, 487 – 503.
- Rogers, E. M. (1962) *Diffusion of innovations* New York: The Free Press.
- Rosenfield, S. (1999) *Clustering, networking and industrial modernization, Regional Technology Strategies, Inc, Internet Programme*, North Carolina, USA: Chapel Hill.
- Rothaermel, F. T. and Boeker, W. (2008) 'Old technology meets new technology: complementarities, similarities and alliance formation', *Strategic Management Journal*, 29, 47-77.

- Rothaermel, F.T. and Deeds, D.L. (2004) 'Exploration and exploitation alliances in biotechnology: a system of new product development', *Strategic Management Journal*, 25(5), 201-221.
- Rousseau, D.M., Sitkin, S. B., Burt, R.S. and Camerer, C. (1998) 'Not so different after all: a cross discipline view of trust', *Academy of Management Review*, 23 (3), 393-404.
- Rowley, T. J. (1997) 'Moving beyond dyadic ties: a network theory of stakeholder influences', *Academy of Management Review*, 22(4), 887 – 910.
- Rowley, T.J. , Behrens, D. and Krackhardt, D. (2000) 'Redundant governance structures: an analysis of structural and relational embeddedness in the steel and semiconductor industries', *Strategic Management Journal*, 21, 369-386.
- Rubin, P. H. (1978) 'The theory of the firm and the structure of the franchise contract', *Journal of Law and Economics*, 21, 223 - 233
- Ruekert, R. W. and Walter, O. C. (1987) 'Marketing's nteraction with other functional units: a conceptual framework and empirical evidence', *Journal of Marketing*, 58, 1-19.
- Rugman, A. and D'Cruz, J. R. (2000) *Multinationals as flagship firms; regional business networks*, New York: Oxford University Press.
- Rugman, A.M. (1981) *Inside the multinationals: the economics of internal markets*, New York: Columbia University Press.
- Ruigrok, W., Wagner, H. and Amann, W. (2004) 'The form of the internationalisation performance relationship: "universal" or "context dependent"?' *Paper prepared for AIB/JIBS paper development workshop, Stockholm*.
- Rumelt, R., Schendel, D. and Teece, D. (1994) *Fundamental issues in strategy: a research agenda*, Boston: Harvard Business School Press.
- Rumelt, R.P. (1984), Towards a strategic theory of the firm , in RB Lamb (ed) *Competitive Strategic Management*, Prentice Hall, Englewood Cliffs, NJ, 556-70
- Rundh, B. (2003) 'Rethinking the international marketing strategy: new dimensions in a competitive market', *Marketing Intelligence and Planning*, 21 (4/5), 249-61.
- Rutashobya, L. (2003) 'Exploring the network phenomenon among small exporting firms' paper presented at *The Sixth Mc Gill Conference on International Entrepreneurship: Crossing Boundaries and Research New Frontiers*, University of Ulster, Magee Campus, Ireland, September, 19 - 22
- Rutashobya, L. and Jaensson, J. E. (2004) 'Small firms' internationalisation for development in Tanzania: exploring the network phenomenon', *International Journal of Social Economics*, 31 (1/2), 159-172.
- Ruzzier, M. B., Antoncic, R., Hisrich, D. and Konecnik, M. (2007) 'Human capital and SME internationalisation: a structural equation modeling study' *Canadian Journal of Administrative Sciences*, 24, 15 – 29.
- Saarenketo, S. K., Puumalainen, O., Kuivalainen, and Kylaheiko, K. (2004) 'Dynamic knowledge-related learning processes in internationalizing high-tech SMEs' *International Journal of Production Economics*, 89, 363-378.
- Sabel, C. (1992) 'Studied trust: building new forms of co-operation in a volatile economy' in Pyke, F. and Sengenberger, W.,eds., *Industrial districts and local economic regeneration* Geneva: International Institute for Labour Studies, 215-250.
- Safford, S. (2004) 'Why the garden club couldn't save youngstown: civic infrastructure and mobilization in economic crises' *MIT Industrial Performance Center, Working Paper*.
- Saito, Y. U., Watanabe, T. and Iwamura, M (2007) 'Do larger firms have more inter-firm relationships?' *Physica A: Statistical Mechanics and its Applications*, 383, (1), 158-163.

- Sako, M. (1992) *Prices, quality and trust: inter-firm relations in Britain and Japan*, Cambridge: Cambridge University Press.
- Salmi, A. (2000) 'Entry into turbulent business networks. A case of a western company on the Estonian market. European', *Journal of Marketing* 34 (11/12), 1374–1390.
- Sapienza, H. J., Autio, E., George, G. and Zahra, S. A. (2006) 'A capabilities perspective on the effects of early internationalisation on firm survival and growth', *Academy of Management Review*, 31(4), 914-933.
- Sarkar, M. and Cavusgil, S. T. (1996) 'Trends in international business thought and literature: A review of international market entry mode research: Integration and synthesis' *The International Executive*, 38, 825–847.
- Sarkar, M. B., Cavusgil, S. T., and Aulakh, P. S. (1999) 'International expansion of telecommunication carriers: The influence of market structure, network characteristics, and entry imperfections', *Journal of International Business Studies*, 30 (2), 361-82.
- Sarkar, M. B., Echambadi, R., Cavusgil, S. T. and Aulakh, P. S. (2001) 'The influence of complementarity, compatibility, and relationship capital on alliance performance', *Journal of the Academy of Marketing Science*, 29(4), 358–373.
- Saxenian, A. (1990) 'Regional networks and the resurgence of Silicon Valley', *Californian Management Review* 33(1), 89-112.
- SBA(2008) (online)
http://ec.europa.eu/enterprise/policies/sme/files/craft/sme_perf_review/doc_08/spr08_fact_sheet_ie_en.pdf Accessed: 12/11/09
- Scanzoni, J. (1979) 'Social exchange and behavioural interdependence' in Burgess, R.L. and Huston, T.L., eds., *Social Exchange in Developing Relationships*, New York: Academic Press.
- Schmid, S. and Schurig, A (2003) 'The development of critical capabilities in foreign subsidiaries: disentangling the role of the subsidiary's business network', *International Business Review*, 12, 755–782
- Schollhammer, H. and Kuriloff, A. (1979) *Entrepreneurship and Small Business Management*, Chicester: John Wiley.
- Schön, D. (1971) *Beyond the Stable State*, New York: Basic Books.
- Schön, D. (1983) *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Schrader, R. C. (2001) 'Collaboration and performance in foreign markets: the case of young high technology manufacturing firms', *Academy of Management Journal*, 44, 45-60.
- Schulz, M. and Jobe, L.A. (2001) 'Codification and tacitness as knowledge management strategies: an empirical exploration', *Journal of High Technology Management Research*, 12, 139--165.
- Schuman, J. C. and Seeger, J. A. (1986) 'The theory and practice of strategic management in smaller rapid growth companies', *American Journal of Small Business*, 11(1), 7-18
- Schumpeter, J. A. (1934) *The theory of economic development*, Cambridge MA: Harvard University Press,
- Selnes, F. and Sallis, J. (2003) 'Promoting relationship learning' *Journal of Marketing*, 67 (July), 80–95.
- Seyed-Mohamed, N. and Bolte, M. (1992) 'Taking a position in a structured business network' in Forsgren, N. and Johanson, M., eds., *Managing Networks in International Business*, Philadelphia: Gordon & Breach, 215-31.
- Shan, W., Walker, G. and Kogut, B. (1994) 'Inter-firm cooperation and start-up innovation in the biotechnology industry', *Strategic Management Journal*, 15, 387-394.
- Sharma, D.D. (1991) *International operations of professional firms*, Lund: Chartwell-Bratt.

- Sharma, D.D. (1992) 'International business research: issues and trends,' *Scandinavian International Business Review* 1(3), 3 – 8.
- Sharma, D.D. (1993) 'Introduction: industrial networks in marketing' in Cavusgil, S.T. and Sharma, D., eds., *Advances in International Marketing*, Greenwich: JAI Press, 5, 1 – 9.
- Sharma, D.D. and Blomstermo, A. (2003) 'The Internationalisation process of born globals: a network view', *International Business Review*, 12(6), 739-754.
- Sharma, V. M. and Erramilli, M. K. (2004) 'Resource-based explanation of entry mode choice' *Journal of Marketing Theory and Practice*, 12, 1–18.
- Sharma, D.D. and Johnson, J. (1987) 'Technical consultancy in internationalisation', *International Marketing Review*, 4, 20 –29.
- Shepherd, D.A., Douglas, E.J. and Shanley, M. (2000) 'New venture survival: ignorance, external shocks, and risk reduction strategies', *Journal of Business Venturing* 15 (5–6), 393–410.
- Shipley, D. and Jobber, D. (2001) 'Integrative pricing via the pricing wheel', *Industrial Marketing Management*, 30 (3), 301-14.
- Shoham, A. (1998) 'Export performance: a conceptualization and empirical assessment', *Journal of International Marketing*, 6(3), 53-73.
- Shulman, N. (1976) 'Network analysis: a new addition to an old bag of tricks,' *Acta Sociologica*, 19, 307 – 323.
- Simmonds, K. and Smith, H. (1968) 'The first export order: a marketing innovation', *British Journal of Marketing*, 2(2), 93 – 100.
- Simmonds, P. G. (1990) 'The combined diversification breadth and mode dimensions and the performance of large diversified firms', *Strategic Management Journal* 11, 200-410.
- Simon, H.A. (1955) 'A behavioural model of rational choice', *Quarterly Journal of Economics*, 69, 99-118.
- Simon, H.A. (1996) *Hidden champions*, Boston, MA: Harvard Business School Press.
- Simon, M., Houghton, S. M. and Aquino, K. (2000) 'Cognitive biases, risk perception and venture formation: How individuals decide to start companies', *Journal of Business Venturing*, 15, 113-134.
- Simonin, B. L. (1999) 'Ambiguity and the process of knowledge transfer in strategic alliances', *Strategic Management Journal*, 20 (7), 295-623.
- Simonin, B.L. (1997) 'The importance of collaborative know-how: an empirical test of the learning organisation', *Academy of Management Journal*, 40(5), 1150-1174.
- Simpson, C.L. and Kujawa, D. (1974) 'The export decision process: An empirical enquiry', *Journal of International Business Studies*, 5 (Spring/summer), 107 – 117.
- Sinkula, J.M., Baker, W. E. and Noordewier, T.A. (1997) 'A Framework for market based organisational learning: linking values, knowledge and behaviour', *Journal of the Academy of Marketing Science*, 25(4) 305-318.
- Sivadas, E. and Dwyer, F. R. (2000) 'An examination of organisational factors influencing new product success in internal and alliance based processes', *Journal of Marketing*, 64, 31-49.
- Smallbone, D. and North, D. (1995) 'Targeting established SMEs: does their age matter?', *International Small Business Journal*, 13(3), 47–64.
- Smith, J. B., and Barclay, D. W. (1997) 'The effects of organisational differences and trust on the effectiveness of selling partner relationships', *Journal of Marketing*, 61 (1 January), 3-22.
- Smith, J. G. and Fleck, V. (1987) 'Business strategies in small high technology companies', *Long Range Planning* 20(2), 61-68.

Snavely, W. P., Wiener, P., Ulbrich, H. H. and Enright, E.L. (1964) *Export survey of the greater Hartford area*, Storrs, CT: University of Connecticut.

Sobh, R. and Perry, C. (2006) 'Research design and data analysis in realism research', *European Journal of Marketing*, 40, (11/12), 1194-1209.

Soh, P.H. (2003) 'The role of networking alliances in information acquisition and its implications for new product performance', *Journal of Business Venturing*, 18(6), 689-832.

Sölvell, Ö., and Birkinshaw, J. (1999) 'Multinational enterprise in the knowledge economy: leveraging global practice' Manchester: Proceedings of the 25th EIBA annual conference.

Sousa C, (2004) 'Export performance measurement: an evaluation of the empirical research literature', *Academy of Marketing Science Review*, no9.

Spence, M. (2000) 'Public-private partnerships for export: some critical considerations for their evaluation', *Journal of Public-Private Partnerships*, 2(2), 307-322.

Steenkamp, J. E.M. and Trijp, H. C.M. (1991) 'The use of LISREL in validating marketing constructs', *International Journal of Research in Marketing*, 8(4), 283-299.

Steinmueller, W.E. (2000) 'Paths to convergence: the roles of popularisation, virtualisation and intermediation' in Bohlin, E., Brodin, K., Lundgren, A. and Thorngren, B., eds., *Convergence in Communications and Beyond*, Amsterdam: North Holland.

Stieglitz, N. (2003) 'Digital dynamics and types of industry convergence: the evolution of the handheld computers market in the 1990s and beyond' in Christensen, J.F. and Maskell, P., eds., *The Industrial Dynamics of the New Digital Economy*, Cheltenham: Edward Elgar.

Stienstra, M., et al. (2004) 'Strategic renewal of Europe's largest telecom operators (1992-2001): From herd behaviour towards strategic choice?', *European Management Journal*, 22, 273-280.

Stinchcombe, A. L. (1965) 'Social structure and organisations' in March J. G., eds., *Handbook of Organisations*. Chicago, IL: Rand McNally, 142-193.

Storey, D. J. (1994) *Understanding the small business sector*, International Thomson Business Press.

Stuart, T.E. (2000) 'Inter-organisational alliances and the performance of firms: a study of growth and innovation rates in a high-technology industry', *Strategic Management Journal*, 21(8), 791-811.

Styles, C. (1998) 'Export performance measures in Australia and the United Kingdom', *Journal of International Marketing*, 6(3), 12-36.

Styles, C. and Ambler, T. (1994) 'Successful export practice: The UK experience', *International Marketing Review*, 11 (6), 23-47

Styles, C., Patterson, P.G. and Ahmed, F. (2008) 'A relational model of export performance', *Journal of International Business Studies*, 39, 880-900.

Sullivan -Mort, G. and Weerawardena, J. (2006) 'Networking capability and international entrepreneurship: how networks function in Australian born global firms', *International Marketing Review*, 23(5)549-572.

Sullivan, D. and Bauerschmidt, A. (1990), 'Incremental internationalisation: a test of Johanson and Vahlne's thesis', *Management International Review*, 30(1), 49 - 64.

Tallman, S. and Li, J. (1996) 'Effects of international diversity and product diversity on the performance of multinational firms', *Academy of Management Journal*, 39(1), 179-196.

Tallman, S. B. And Shenkar, O. (1994) 'A managerial decision model of international cooperative venture formation', *Journal of International Business Studies*, 25, 91-113.

Tang, Y. K. (2009) 'Networks and the internationalisation of firms: what we believe and what we might have missed' in Jones et al., (eds), *Internationalisation, Entrepreneurship and the Smaller Firm*, UK: Edgar Elgar Publishing LTD.

- Teece, D. J. (1987) 'Profiting from technological innovation: implications for integration, collaboration, licensing and public policy' in Teece, D. J., ed., *The Competitive Challenge: Strategies for Industrial Innovation and Renewal*, Cambridge MA: Ballinger, 185-219.
- Teece, D. J. (1992) 'Competition, cooperation and innovation: organisational arrangements for regime of rapid technological progress', *Journal of Economic Behaviour and Organisation*, 18 (1) 1 - 25.
- Teece, D. J. and Pisano, G. (1994) 'The dynamic capabilities of firms: an introduction', *Industrial and Corporate Change* 3(3), 537-556.
- Teece, D. J., Pisano, G. and Shuen, A. (1997) 'Dynamic capabilities and strategic management', *Strategic Management Journal*, 18(7), 341 – 354.
- Tejada, A. (1999) *Critical questions that we should ask about networking*. Georgia: School of Management, Internet Programme.
- Thomas, G. F., Jansen, E. Hocevar, S. P. and Rendon, R. G. (2007) 'Field validation of collaborative capacity audit' Monterey, California: Acquisition Research Programme, Graduate School of Business & Public Policy, Naval Postgraduate School.
- Thompson, J. (1967) *Organisations in Action*, New York: Mc Graw Hill.
- Thomson, G. F. (2003) *Between hierarchies and markets: the logic and limits of network forms of organisations*, Oxford: Oxford Press.
- Thorelli, H. B. (1986) 'Networks: between markets and hierarchies', *Strategic Management Journal* 7, 37 - 51
- Tiernan, S. (1995) 'From bureaucratic to network organisation: organisational change and the outcomes at Team AerLingus' PhD Thesis, University of Limerick.
- Tihanyi, L., Griffith, D. A. and Russell, C. J. (2005) 'The effect of cultural distance on entry mode choice, international diversification, and MNE performance: A meta-analysis' *Journal of International Business Studies*, 36, 270–283.
- Tiwana, A. (2007) 'Do bridging ties compliment strong ties? an empirical examination of alliance ambidexterity', *Strategic Management Journal* (In Press).
- Tookey, D.A. (1969) 'Factors associated with success in exporting', *Journal of Management Studies*, 1(1)48 – 66.
- Toyne, B. (1997) 'International business inquiry: does it warrant a separate domain?', in Toyne, B. and Nigh, D., eds., *International Business: An Emerging Vision*, Columbia: University of South Carolina Press, 62-76.
- Toyne, B. and Nigh, B. (1998) 'A more expansive view of international business', *Journal of International Business Studies*, 29(4), 863 – 875.
- Tripsas, M. and Gavetti, G. (2000) 'Capabilities, cognition, and inertia: evidence from digital imaging', *Strategic Management Journal*, 21, 1147-61.
- Trist, E. L. (1979) 'Referent organisations and the development of inter-organisational domains' *Distinguished Lecture, Organisation and Management Theory Division*, 39th Annual Convention of the Academy of Management, Atlanta, Georgia.
- Tsang, W.K. (1998) 'Can Guanxi be a source of sustained competitive advantage for doing business in China?', *Academy of Management Executive*, 12, 2 64-73.
- Tseng, C. H and Kuo, H. C. (2006) 'Social network relationships and performance: foreign direct investment by Taiwanese firms in China and the United States' paper presented at the *Annual Academy of International Business Conference*, Beijing, China, June 23-26,
- Turnbull, P. W. (1987) 'A challenge to the stages theory of the internationalisation process' in Rosson, R.J. and Reid, S. D., eds., *Managing Export Market Entry and Expansion*, New York: Praeger, 21-40.
- Turnbull, P. W. and Valla, J. P. (1986) *Strategies for international industrial marketing*, London: Croom Helm.

- Turnbull, P.W. (1987) 'A challenge to the stages theory of the internationalisation process' in Rosson, P. and Reid, S., ed., *Managing export entry and expansion*, New York: Praeger.
- Turnbull, P.W. and Wilson, D.T., (1989) 'Developing and protecting profitable customer relationships' *Industrial Marketing Management*, 18, 223-238
- Turnbull, P.W., Ford, D. and Cunningham, M. (1996) 'Interaction, relationships and networks in business markets: an evolving perspective', *Journal of Business & Industrial Marketing*. 11 (3/4), 44-62.
- Tushman, M. and Nader, N. (1996) 'Organizing for innovation' in Starkey K., ed., *How Organisations Learn?*, London: International Thomson Business Press, 135 – 155.
- Tushman, M. and O Reilly, C. A. (1997) *Winning through innovation: a practical guide to leading organisational change and renewal*, Boston MA: Harvard Business School Press.
- Tyre, M. J., and von Hippel, E. (1997) 'The situated nature of adaptive learning in organisations', *Organisation Science*, 8(1), 71-83.
- Ujjal, V. (2009) 'High tech firm networks, innovation and internationalisation: an empirical analysis of the export performance dynamics' paper presented at the *Academy of International Business UK and Ireland Chapter*, 36th Annual Conference, University of Glasgow, Scotland, April 1-3rd.
- Utterback, J. M. and Abernathy, W. J. (1975) 'A dynamic model of process and product innovation' *Omega* 3, 639-656.
- Utterback, J. M. (1996) *Mastering the dynamics of innovation*, Boston MS: Harvard Business School Press.
- Uzzi, B. (1996) 'The sources and consequences of embeddedness for the economic performance of organisations: the network effect', *American Sociological Review*, 61, 674 – 698.
- Uzzi, B. (1997) 'Social structure and competition in inter-firm networks: the paradox of embeddedness', *Administrative Science Quarterly*, 42 (1), 35–67.
- Van de Ven, A.H. and Engleman, R. M. (2004) 'Event and outcome driven explanations of entrepreneurship', *Journal of Business Venturing*, 19(3), 343-358.
- Van de Ven, A. H. (1976) 'On the nature, formation, and maintenance of relations among organisations', *Academy of Management Review*, 1, 24 - 36.
- Van de Ven, A. H. (1992) 'Suggestions for studying strategy processes: a research note', *Strategic Management Journal*, 13, 1 – 22.
- Van de Ven, A. H. and Ferry, D. L. (1980) *Measuring and assessing organisations*, New York: John Wiley and Sons.
- Van de Ven, A.H. and Walker, G. (1984) 'The dynamics of inter-organisational coordination' *Administrative Science Quarterly*, 29 (4), 598-621.
- Varamäki, E. and Vesalainen, J. (2003) 'Modelling different types of multilateral interfirm cooperation in the SME-sector', *Entrepreneurship and Regional Development Journal*, 15(1), 27–48.
- Vernon, R. (1964) in Robock, SH and Nehrt, L. C. eds., *Education in international business*. Bloomington IN: Graduate School of Business, Indiana University, 7 – 10.
- Vernon, R. (1966) 'International investment and international trade in the product cycle', *Quarterly Journal of Economics*, 80, 190-207.
- Vesalainen, J, Viitala (Strömmer), R. (1999) 'From individual learning to network learning – networks as learners and as forums for learning' in Alasoini, T, Halme, P., eds., *Learning Organisations, Learning Society*, Helsinki, Ministry of Labour Reports 8, 117-39.
- Vickers, G. (1965) *The art of judgement*, London: Chapman and Hall.

- Walker, G., Kogut, B., Shan, W. (1997) 'Social capital, structural holes and the formation of an industry network', *Organisation Science*, 8 (2), 109– 125.
- Walker, O. C. and Ruekert, R. W (1987) 'Marketing's role in the implementation of business strategies' *Journal of Marketing*, 51 (July), 15-33.
- Wally, S., Carroll, S. and Flood, P. (1995) 'Managing without traditional structures' in Flood, P. M. Gannon, P. Paauwe, J and Associates., eds., *Managing Without Traditional Methods: Strategic International Innovations in Human Resource Management*, London: Addison-Wesely.
- Walter, A., Auer, M. and Ritter, T. (2006) 'The impact of network capabilities and entrepreneurial orientation on university spin off performance', *Journal of Business Venturing*, 21,541 – 567.
- Walter, A., Ritter, T. and Gemünden, H. G. (2001) 'Value creation in buyer-seller relationships - theoretical considerations and empirical results from a supplier's perspective', *Industrial Marketing Management*, 30 (4), 365-377.
- Wan, W.P. and Hoskisson, R.E. (2003) 'Home country environments, corporate diversification strategies, and firm performance', *Academy of Management Journal* 46(1): 27-45.
- Wang, L. and Zajac, E.J. (2007) 'Alliance or acquisition? a dyadic perspective on interfirm resource combinations', *Strategic Management Journal*, 28(13), 1291-1317.
- Warner, R. M. (2008) *Applied statistics: from bivariate through multivariate techniques*, USA: Sage.
- Watson, J. (2007) 'Modeling the relationship between networking and firm performance', *Journal of Business Venturing*, 22, 852-874.
- Wei, R. (2008) 'Motivations for using mobile phone for mass communication and entertainment', *Telematics and Informatics*, 25, 36-46.
- Weick, K.E. (1977) 'Enactment processes in organisation' in Staw BM and Salancik G.,eds., *New Direction in Organisational Behaviour*, Chicago: St Clair Press.
- Weick, K.E. (1995) *Sense making in organisations*. Thousand Oaks, CA: Sage.
- Weisfelder, C.J. (2001) 'Internationalisation and the multinational enterprise: development of research tradition' in Axinn C and Matthyssens, P.,eds., *Advances in International Marketing: Reassessing the Internationalisation of the Firm*. 11, 13 – 46.
- Weiss, A. M. and Heide, J. B. (1993) 'The nature of organisational search in high technology markets', *Journal of Marketing Research*, 30 (May), 220-233.
- Welch, D., Welch, L., Young, L. and Wilkinson, I. (1997) 'The importance of networks in export promotion: policy issues', *Journal of International Marketing*, 6(4), 66–82.
- Welch, L. S. and Loustarinen, R. (1988) 'Internationalisation: evolution of a concept', *Journal of General Management*, 14(2), 34-35.
- Welch, L.S. (1992) 'The use of alliances by small firms in achieving internationalisation', *Scandinavian International Business Review* 1(2), 21-37.
- Wells, L.T (1977) 'The internationalisation of firms from developing countries' in Agmon, T.Y. and Kindleberger, C. P.,eds., *Multinationals from Small Countries*, Cambridge MA: MIT Press, 133-156.
- Werner, S. (2002) 'Recent developments in international management research: a review of 20 top management journals', *Journal of Management*, 28(3), 277 – 305.
- Wernerfelt, B. (1984) 'A resource-based view of the firm' *Strategic Management Journal*, 5, 171 - 180.
- Westen, D.and Rosenthal, R. (2003) 'Quantifying construct validity: two simple measures', *Journal of Personality and Social Psychology* , 84, 608–618.

- Westhead, P., Wright, M. and Ucbasaran, D. (2002) 'International market selection strategies selected by micro and small firms' *Omega*, 30(1), 51-68.
- Westhead, P., Wright, M. and Ucbasaran, D. (2001) 'Internationalisation of new and small firms: a resource-based view', *Journal of Business Venturing*, 16, 333 – 358.
- Westhead, P., Wright, M. and Ucbasaran, D. (1994) 'The Internationalisation of new and small firms: A Resource Based View' *Journal of International Business Studies* 25(4), 687 – 701.
- Whitelock, J. and Munday, P. (1993) 'Internationalisation of the firm: two cases in the industrial explosives industry' *Journal of International Marketing*, 1(4), 19-30.
- Wicks, A.C. and Berman, S. L. (2004) 'The effects of context on trust in firm-stakeholder relationships: the institutional environment, trust creation, and firm performance', *Business Ethics Quarterly* 14(1), 141-160.
- Wiedersheim-Paul, F., Olson, H. C. and Welch, L. S. (1978) 'Pre-export activity: the first step in internationalisation', *Journal of International Business Studies*, 9(Spring/Summer), 47-58.
- Wilkins, M. (1997) 'The conceptual domain of international business', in Toyne, B. and Nigh, D.,eds., *International Business: An Emerging Vision*, Columbia: University of South Carolina Press, 31-50.
- Wilkins, M. (2001) 'The history of multinational enterprise', in Rugman, A. and Brewer, T.,eds., *The Oxford Handbook of International Business*, Oxford: Oxford University Press, 3-35.
- Williams, J. (1992) 'How sustainable is your competitive advantage?', *California Management Review*, 34, 29–51.
- Williams, M. (2007) 'Building genuine trust through interpersonal emotion management: a threat regulation model of trust and collaboration across boundaries', *Academy of Management Review* 32(2), 595–623.
- Williamson, O. E. (1971) 'The vertical integration of production: market failure considerations' *American Economic Review*, 61, May.
- Williamson, O. E. (1975) *Markets and hierarchies – analysis and antitrust implications*, New York: The Free Press.
- Williamson, O. E. (1986) *Economic organisation: firms, markets and policy control*, Essex: Wheatsheaf Books.
- Williamson, O.E. (1985) *The economic institutions of capitalism*, New York: Free Press.
- Williamson, O.E. (1991) 'Comparative economic organisation: the analysis of discrete structural alternatives', *Administrative Science Quarterly*, 36, 269-96.
- Wilson, D. and Mummalaneni, V. (1990) 'Bonding and commitment in buyer–seller relationships: a preliminary conceptualisation' in Ford D.,ed., *Understanding business markets: Interaction, relationships, networks* London: Academic Press, 408–420.
- Wilson, D.T. (1995) 'An integrated model of buyer-seller relationships', *Journal of the Academy of Marketing Science*, 23 (4), 335-45.
- Wilson, D.T. and Kristan Moller, K. E.. (1991) 'Buyer-seller relationships: Alternative conceptualisations' in Paliwoda, S.J.,ed., *New Perspectives on International Marketing*, London: Routledge, 87-107.
- Wincent, J. (2005) 'Does size matter? a study of firm behaviour and outcomes in strategic sme networks' *Journal of Small Business and Enterprise Development*, 12(3), 437-453.
- Witt, P. (2004) 'Entrepreneurs ' networks and the success of start-ups', *Entrepreneurship and Regional Development*, 16(5), 391-412.
- Woodcock, P. C., Beamish, P. W. and Makino, S. (1994) 'Ownership-based entry mode strategies and international performance', *Journal of International Business Studies*, 25(2),

253–273.

- Woodward, J. (1958) *Managing and technology: problems of progress in industry*. HM Stationary Office.
- Woodward, J. (1965) *Industrial organisations: theory and practice*, London: Oxford University Press.
- Wortzel, L. H. and Wortzel, H. V. (1981) 'Export marketing strategies for nic and ldc based firms', *Columbia Journal of World Business*, Spring 51-60.
- Yeoh, P. L. (2004) 'International learning: antecedents and performance implications among newly internationalizing companies in an exporting context', *International Marketing Review*, 21(4-4), 511-535.
- Yeoh, P.L. and Jeong, I. (1995) 'Contingency relationships between entrepreneurship, export channel structure and environment', *European Journal of Marketing*, 29(8), 95–115.
- Yin, R.K. (1989) *Case study research – design and methods*, 1st ed, Thousand Oaks CA: Sage.
- Yip, G.S. (1989) 'Global strategy... in a world of nations?' *Sloan Management Review* 31(1), 29-41.
- Yli-Renko, H., Autio, E. and Tontti, V. (2002) 'Social capital, knowledge and the international growth of technology based new ventures', *International Business Review*, 11(3), 279–304.
- Yoshihara, K. (1978) 'Determinants of Japanese investment in South East Asia', *International Social Science Journal*, 30.
- Yoshina, M.Y. and Rangan, U.S. (1995) *Strategic alliances: An entrepreneurial approach to globalization*, Boston: Harvard Business School Press.
- Young, S, (1987), 'Business strategy and the internationalisation process: recent approaches', *Managerial and Decision Economics*, 8, 31 – 40.
- Young, S. and Hood, N. (1976) 'Perspectives on the European marketing strategy of US multinationals,' *European Journal of Marketing*, 10, 240–256.
- Young, S. and Jones, M . V. (2009) Does entry mode matter? Reviewing current themes and perspectives, in Jones, M.V., Dimitratos, P., Fletcher, M. and S. Young.,eds., *Internationalisation, Entrepreneurship and the Smaller Firm*, Cheltenham UK, Edgar Elgar, 6-19.
- Zacharakis, A. L. (1998) 'Entrepreneurial entry into foreign markets: A transaction cost perspective', *Entrepreneurship Theory and Practice*, 22(2), 23-39.
- Zaheer, A. and Venkataraman, S. (1995) 'Relational governance as an inter-organisational strategy: An empirical test of the rate of trust in economic exchange', *Strategic Management Journal*, 16, 373-392.
- Zaheer, A. and Zaheer, S. (1997) 'Catching the wave: alertness, responsiveness, and market influence in global electronic networks', *Management Science*. 43 (11),1493-1509.
- Zaheer, A. and Zaheer, S. (2006) 'Trust across borders' *Journal of International Business Studies*, 37, 21-29.
- Zaheer, A., McEvily, B. and Perrone, V. (1998) 'Does trust matter? Exploring the effects of inter-organisational and interpersonal trust on performance', *Organisation Science* 9(2), 141–159.
- Zaheer, S. (1995) 'Overcoming the liability of foreignness', *Academy of Management Journal* 38: 341-363.
- Zahra, S.A., Neubaum, D.O. and Huse, M. (2000) 'Entrepreneurship in medium-size companies: exploring the effects of ownership and governance system', *Journal of*

Management, 26, 947-76.

Zajac, E. J. and Olsen, C. P. (1993) 'From transaction cost to transaction value analysis: implications for the study of inter-organisational strategies' *Journal of Management Studies*, 30(1), 131 – 145.

Zander, I. (1999) 'Whereto the multinational? The evolution of technological capabilities in the multinational network' *International Business Review*, 8, 261 – 291.

Zander, U. and Kogut, B. (1995). Knowledge and the speed of the transfer and imitation of organisational capabilities: An empirical test', *Organisation Science*, 6, 76–92.

Zeira, Y., Newburry, W. and Yeheskel, O. (1997) 'Factors affecting the effectiveness of equity international joint ventures in Hungary', *Management International Review*, 37(3), 259-279.

Zhang, C., Cavusgil, T. S. and Roath, A. S. (2003) 'Manufacturer governance of foreign distributor relationships: Do relational norms enhance competitiveness in the export market?', *Journal of International Business Studies*, 34(6), 550–566.

Zhao, L. and Aram, J.D. (1995) 'Networking and growth of young technology-intensive ventures in China' *Journal of Business Venturing* 10 (5), 349–370.

Zhao, H., Luo, Y. and Suh, T. (2004) 'Transaction cost determinants and ownership-based entry mode choice: A meta-analytical review' *Journal of International Business Studies*, 35, 524–544.

Zollo, M. and Winter, S. (2002) 'Deliberate learning and the evolution of dynamic capabilities' *Organisation Science*, 13(3), 339-351.

Zou, S. and Stan, S. (1998) 'The determinants of export performance: a review of the empirical literature between 1987 and 1997' *International Marketing Review*, 15(5), 333.

Zou, S., Taylor, C. R. and Osland, G. E. (1998) 'The EXPERF scale: a cross national generalised export performance measure', *Journal of International Marketing*, 6 (3).

Zucker, L.G. (1986) 'Production of trust: Institutional sources of economic structure, (1840-1920)' in Staw, B.M. and Cummings, L.L., eds., *Research in Organisational Behaviour*, Greenwich, CT: JAI Press, 8, 53-111.

Refereed Publications

Kenny, B. and Fahy, J. (2009) ‘Surecom Network Solutions Ltd: In a World of Pots and Pans’ *Irish Business Journal*, Case Study Edition, 5 (1), 46-54.

Kenny, B. and Fahy, J. (2006) ‘Examining the Link between International Business Networks and Performance in International Trade – A Research Agenda’ *International Journal of Entrepreneurship and Innovation Management*, 6 (6), 490 – 507.

Presentations at International Conferences

Prosser, G., Kenny, B., and Reedy, E. (2009) ‘Knowledge Management and Leadership in Tourism Networks’, paper presented at the 27th Annual EuroCHRIE conference, Haaga Helia, University of Applied Sciences, Helsinki, Oct 22- 24th.

Prosser, G., Kenny, B., and Reedy, E. (2009) ‘A Framework for Research on Knowledge Management, Leadership Behaviour and Tourism Networks’ paper presented at the 5th *Annual Tourism and Hospitality Research in Ireland Conference (THRIC)*. Dublin Institute of Technology (DIT), June 16th - 17th.

Prosser, G. Reedy, E., and Kenny, B. (2009) ‘Service Innovation in Tourism: Investigating the Impact of Leadership Behaviour and Network Ties, paper presented at the *TTRA European Chapter Conference*, Rotterdam and Breda, the Netherlands, April 22nd - 24th.

Kenny, B. and Fahy, J. (2009) ‘Network Resources and International Performance in the Telecommunications Sector’ paper presented at the *Academy of International Business UK and Ireland Chapter, 36th Annual Conference*, University of Glasgow, Scotland, April 2nd - 4th.

Kenny, B. and Fahy, J. (2008) ‘A Capabilities Perspective on Networks and International Performance of SMEs’ paper presented at the *Academy of International Business UK and Ireland Chapter, 35th Annual Conference*, University of Portsmouth, UK, March 28 – 29th.

Kenny, B. and Fahy, J. (2004) ‘Examining the Link Between International Business Networks and Performance in International Trade – A Research Agenda’ paper presented at the *Academy of International Business UK Chapter, 34th Annual Conference International Business in an Enlarging Europe: Integration, Coopetition and Collaboration*, University of Ulster, Magee, Northern Ireland, April 22 – 24th.

Appendix 2 – Pre-notice Letter

Dear Mr Kenny,

A few days from now you will receive in the mail a request to fill out a brief questionnaire for PhD research being conducted by the University of Limerick.

It concerns the impact of partnering and networking capability on the international performance of your sector.

I am writing in advance because we found that many people like to know ahead of time that they will be contacted. The study is an important one that will assist in developing and recommending strategies that may enhance the performance of the sector in international markets.

Thank you for your time and consideration. It is only with the input from companies such as yours that our research can be successful.

Yours sincerely,

Breda Kenny BBS, MBS, MMii Grad
Doctoral Researcher
Kemmy Business School.

P.S. We will be enclosing a small token of appreciation with the questionnaire as a way of saying thanks.

Appendix 3 – Cover letter – Main Survey

9th May 2008

Dear Mr Kenny,

In the context of convergence in the high tech industry, partnering arrangements and relationships with other companies are vital to the international success of the telecoms and internet industry in Ireland. As a company operating in this general sector, you have been selected to take part in a major study of the impact of such partnering and networking capability on international performance of your sector.

I would be most grateful if you could take just 10 minutes to complete the enclosed questionnaire and return to me in the pre-paid return envelope provided.

The success of this national study depends on the data made available by companies such as yours. Your contribution is therefore invaluable and will assist in developing and recommending strategies that may enhance the performance of the sector in international markets.

I can assure you that the information provided will be dealt with in strictest confidence and will be used for academic purposes only.

I have enclosed a small token of appreciation as a way of saying thanks for your help. If you would prefer to complete an online version of this study, simply send an email to breda.c.kenny@ul.ie stating your preference and a link to the survey will be sent immediately.

Thank you in advance for your cooperation.

Yours sincerely,

Breda Kenny BBS, MBS, MMii Grad
Email: breda.c.kenny@ul.ie
Tel: 00353 87 2835583

Appendix 4 – Questionnaire

8) We strive to achieve synergy through working together.
All the time 1 2 3 4 5 6 7 Never

10. How would you describe the level information sharing between network partners?

Please circle the number that best reflects your firm's CURRENT position

1) We share proprietary business information.
All the time 1 2 3 4 5 6 7 Never

2) We exchange internal management information timely for each other's planning.
All the time 1 2 3 4 5 6 7 Never

3) We share information about competitors and environments.
All the time 1 2 3 4 5 6 7 Never

4) We share internal decisions with the partners that might be affected.
All the time 1 2 3 4 5 6 7 Never

5) Information is available and accessible in a format that can be easily utilized.
All the time 1 2 3 4 5 6 7 Never

6) We have processes to systematically transfer knowledge across alliance partners.
All the time 1 2 3 4 5 6 7 Never

7) Information is often spontaneously exchanged.
All the time 1 2 3 4 5 6 7 Never

Section E - Business Performance

11. How would you rate?

Please circle the number that best reflects your firm's CURRENT position relative to your main competitors

1) The Domestic Market Share of your number 1 Product/Service.
Excellent 1 2 3 4 5 6 7 Poor

2) The International Market Share of your number 1 product/service.
Excellent 1 2 3 4 5 6 7 Poor

3) Your Domestic Sales Growth over the past 3 years.
Excellent 1 2 3 4 5 6 7 Poor

4) Your International Sales Growth over the last 3 years.
Excellent 1 2 3 4 5 6 7 Poor

5) Your Average Return on Investment (ROI).
Excellent 1 2 3 4 5 6 7 Poor

6) Your total Turnover.
Excellent 1 2 3 4 5 6 7 Poor

7) Your International Turnover.
Excellent 1 2 3 4 5 6 7 Poor

8) Your Total Pre-Tax Profitability.
Excellent 1 2 3 4 5 6 7 Poor

9) Your International Pre-Tax Profitability.
Excellent 1 2 3 4 5 6 7 Poor

10) Customer satisfaction in international markets.
Excellent 1 2 3 4 5 6 7 Poor

11) Customer retention in international markets.
Excellent 1 2 3 4 5 6 7 Poor

Section F - Organisational Profile

12. Which of the following categories would your business fall under?

Please tick

Computer Consultancy	<input type="checkbox"/>
Computer Services - Miscellaneous	<input type="checkbox"/>
Computing & Bureau Services	<input type="checkbox"/>
Data Communications	<input type="checkbox"/>
Internet Services & Web Design	<input type="checkbox"/>
Telecommunications	<input type="checkbox"/>
Telephone Cost Management	<input type="checkbox"/>
Other, please specify:.....	<input type="checkbox"/>

13. How many people do you currently employ?.....

14. Are you exporting or operating in international markets?
Yes No

If Yes:
a. How many years have you been doing so?.....

b. How many international markets are you currently involved in?.....

c. Do you have a dedicated international business division or unit?
Yes No

d. How many employees are there in the international business division or unit?.....

e. Approximately what percentage of your firm's revenue come from your international market activities?

f. Have you plans to further develop international markets for your firm?
Yes No

If No:
g. Do you have plans to export or operate internationally within the next 12 months?
Yes No

15. How important are international markets to the overall performance of your own firm?

Please circle the number that best reflects your firm's CURRENT position
Very Important 1 2 3 4 5 6 7 Not Important at all

16. How have your networks relations impacted on your international performance?

Please circle the number that best reflects your firm's CURRENT position
To a great extent 1 2 3 4 5 6 7 Very little

17. What is your position within the firm?.....

18. Please feel free to add additional comments

Thank you very much for taking the time to complete this questionnaire



UNIVERSITY OF LIMERICK
OILS COIL LUIMNIGH

NETWORKING CAPABILITY
AND INTERNATIONAL PERFORMANCE:

A STUDY OF THE TELECOMMUNICATIONS AND INTERNET INDUSTRY IN IRELAND



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Section A - The Nature of your Network Relation

1. How important are relationships with other businesses to the overall performance of your own firm?

Please circle the number that best reflects your firm's CURRENT position

Very Important 1 2 3 4 5 6 7 Not Important at all

2. To what extent does your firm use the following forms of inter-firm collaboration?

Please circle the number that best reflects your firm's CURRENT position

1) Direct Importing All the time 1 2 3 4 5 6 7 Never

2) Indirect exporting via agent All the time 1 2 3 4 5 6 7 Never

3) Indirect exporting via distributor All the time 1 2 3 4 5 6 7 Never

4) Direct exporting All the time 1 2 3 4 5 6 7 Never

5) Exporting via foreign intermediary All the time 1 2 3 4 5 6 7 Never

6) Marketing agreements All the time 1 2 3 4 5 6 7 Never

7) Patenting agreements All the time 1 2 3 4 5 6 7 Never

8) Informal partnering arrangements All the time 1 2 3 4 5 6 7 Never

9) Sales or manufacturing joint ventures All the time 1 2 3 4 5 6 7 Never

10) Equity Alliances All the time 1 2 3 4 5 6 7 Never

11) Non equity R & D Alliances All the time 1 2 3 4 5 6 7 Never

12) Sales or manufacturing subsidiary All the time 1 2 3 4 5 6 7 Never

13) Licensing All the time 1 2 3 4 5 6 7 Never

14) Franchising All the time 1 2 3 4 5 6 7 Never

15) Other please specify..... All the time 1 2 3 4 5 6 7 Never

Section B - Network Characteristics

3. In our firm's networks we have the capability to:

Please circle the number that best reflects your firm's CURRENT position

1) Stay together during adversity/challenges All the time 1 2 3 4 5 6 7 Never

2) Feel indebted to our partners for what they have done for us All the time 1 2 3 4 5 6 7 Never

3) Expect that we will be working with our partners far into the future All the time 1 2 3 4 5 6 7 Never

4) Have close, personal interaction between the partners at multiple levels All the time 1 2 3 4 5 6 7 Never

5) See the value in mutual respect between the partners at multiple levels All the time 1 2 3 4 5 6 7 Never

6) Nurture mutually beneficial relationships All the time 1 2 3 4 5 6 7 Never

7) Successfully terminate a partnership once it has exceeded its useful lifespan while maintaining good business relations All the time 1 2 3 4 5 6 7 Never

8) Have difficulty communicating our needs to others All the time 1 2 3 4 5 6 7 Never

9) Confidently handle negotiations with others All the time 1 2 3 4 5 6 7 Never

10) Put ourselves in another person's position All the time 1 2 3 4 5 6 7 Never

11) Easily understand other people's behaviour All the time 1 2 3 4 5 6 7 Never

12) Have a level of proficiency of the language of the foreign partners All the time 1 2 3 4 5 6 7 Never

4. How would you rate your firm's trust in your network partner?

Please circle the number that best reflects your firm's CURRENT position

1) They are very competent in the areas in which we interact All the time 1 2 3 4 5 6 7 Never

2) Their motives could be questioned All the time 1 2 3 4 5 6 7 Never

3) They have the ability to contribute to cooperative projects All the time 1 2 3 4 5 6 7 Never

4) We trust they would act in our companies best interest All the time 1 2 3 4 5 6 7 Never

5) They share our overall goals and values All the time 1 2 3 4 5 6 7 Never

6) They are generally honest and truthful in the information provided All the time 1 2 3 4 5 6 7 Never

Section C - Network Operation

5. Before working with external partners, we:

Please circle the number that best reflects your firm's CURRENT position

1) Inform ourselves of their respective markets All the time 1 2 3 4 5 6 7 Never

2) Inform ourselves of their products/services All the time 1 2 3 4 5 6 7 Never

3) Determine their strengths and weaknesses All the time 1 2 3 4 5 6 7 Never

4) Inform ourselves of their strategies and potentials All the time 1 2 3 4 5 6 7 Never

5) Judge in advance which possible partners we can pursue projects with All the time 1 2 3 4 5 6 7 Never

6) Seek opportunities to complement our capabilities and resources All the time 1 2 3 4 5 6 7 Never

7) Routinely gather information about prospective partners from various forums (e.g., trade shows, industry conventions, databases, publications, internet, etc.) All the time 1 2 3 4 5 6 7 Never

8) Use organizations, apart from our existing technical partners to identify potential technical partners (e.g., Chambers of commerce, consultants, industry associations, government organisations) All the time 1 2 3 4 5 6 7 Never

6. To what extent do the following statements apply to your organization regarding the form, ease of and use of relationships to partners?

Please circle the number that best reflects your firm's CURRENT position

1) We analyse what we would like and desire to achieve with which partner All the time 1 2 3 4 5 6 7 Never

2) We appoint coordinators who are responsible for the relationships with our partners All the time 1 2 3 4 5 6 7 Never

3) We discuss regularly with our partners how we can support each other in our success All the time 1 2 3 4 5 6 7 Never

4) We try to formalise our network relationships (e.g., formal agreements, joint ventures) All the time 1 2 3 4 5 6 7 Never

5) The partners engage in joint problem solving while resolving conflicts All the time 1 2 3 4 5 6 7 Never

6) Great emphasis is placed on dealing with cultural obstacles while resolving conflicts All the time 1 2 3 4 5 6 7 Never

7. How would you rate your firm ability to learn from your network partner?

Please circle the number that best reflects your firm's CURRENT position

1) We ensure that strategic decisions within our firm are informed by our networking activities All the time 1 2 3 4 5 6 7 Never

2) We value employee feedback for strengthening networking relations All the time 1 2 3 4 5 6 7 Never

3) We conduct periodic reviews of our alliances to understand what we are doing right, and where we are doing wrong All the time 1 2 3 4 5 6 7 Never

4) We periodically collect and analyse field experiences from our networks All the time 1 2 3 4 5 6 7 Never

5) We modify our network related procedures as we learn from experience All the time 1 2 3 4 5 6 7 Never

6) Resources such as network manuals (containing tools, templates, or frameworks) are developed and used to assist managerial decision making and/or actions while forming or managing networks All the time 1 2 3 4 5 6 7 Never

7) Company managers attend training programmes on 'network management' whenever they are assigned to manage or work with any alliance All the time 1 2 3 4 5 6 7 Never

8) The company provides opportunities for 'on-the-job' network training to individuals who are relatively new to managing networks. Here, individuals are assigned to work in existing networks, especially with managers who have substantial experience in managing such relationships All the time 1 2 3 4 5 6 7 Never

Section D - Resources

8. Indicate how characteristic each of the following statements is in describing your firm:

Please circle the number that best reflects your firm's CURRENT position

1) We have the necessary management expertise to assess foreign market potential. To a great extent 1 2 3 4 5 6 7 Very little

2) We have the necessary management expertise to manage our network relationships. To a great extent 1 2 3 4 5 6 7 Very little

3) We have the necessary resources in terms of industry knowledge to pursue foreign markets. To a great extent 1 2 3 4 5 6 7 Very little

4) We have the necessary technical expertise to assess foreign market potential through our networks. To a great extent 1 2 3 4 5 6 7 Very little

5) We have international experience in doing business in new markets. To a great extent 1 2 3 4 5 6 7 Very little

6) We have international experience in cooperating with other firms. To a great extent 1 2 3 4 5 6 7 Very little

9. Please rate how resources between networks partners complement each other:

Please circle the number that best reflects your firm's CURRENT position

1) Network relationships allow efficient use of our firm's resources All the time 1 2 3 4 5 6 7 Never

2) Network relationships lead to sound economic use of our firm's resources All the time 1 2 3 4 5 6 7 Never

3) Network relationships allow effective use of our firm's knowledge base All the time 1 2 3 4 5 6 7 Never

4) There is high Complementarity between the resources/capabilities of our network partners All the time 1 2 3 4 5 6 7 Never

5) There is high similarity/overlap between the core capabilities of each partner All the time 1 2 3 4 5 6 7 Never

6) The organizational cultures of our network partners are incompatible with each other All the time 1 2 3 4 5 6 7 Never

7) The management and operating styles of our network partners are compatible with each other All the time 1 2 3 4 5 6 7 Never

Appendix 5 – Reminder Postcard



Appendix 6 – Reminder Letter with Replacement Questionnaire

Dear,

About four weeks ago I sent you a questionnaire seeking your views on networking capability and international performance in your company. To the best of our knowledge, it's not yet been returned. If you have returned it in the last few days, thank you and apologies for cross correspondence.

The feedback from those who have already responded is highlighting some interesting patterns regarding networking and relationship patterns in your sector. We think the results are going to be useful to companies like yours and to state and other agencies charged with assisting companies to enhance performance in international markets.

We are writing again because of the importance that your questionnaire has for helping to get accurate results, it is only by maximising the response rate that we can be sure that the results are truly representative.

We hope that the research is relevant to you and that you will fill out the questionnaire soon.

If you would prefer to complete an online version of this study, simply send an email to breda.c.kenny@ul.ie stating your preference and a link to the survey will be sent immediately.

Thank you in advance for your cooperation and I understand if you do not want to participate in this study.

Yours sincerely,

Breda Kenny BBS, MBS, MMii Grad
Email: breda.c.kenny@ul.ie
Tel: 00353 87 2835583

Appendix 7 – Item Total Statistics

Form of inter-firm collaboration (Strong V Weak ties)	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Direct Importing	0.39	0.80
Indirect exporting via agent	0.46	0.79
Indirect exporting via distributor	0.49	0.79
Direct exporting	0.49	0.79
Exporting via foreign intermediary	0.52	0.79
Marketing agreements	0.57	0.78
Patenting agreements	0.42	0.80
Informal partnering arrangements	0.40	0.80
Sales or manufacturing joint ventures	0.35	0.80
Equity Alliances	0.41	0.80
Non equity R and D Alliances	0.48	0.79
Sales or manufacturing subsidiary	0.48	0.79
Licensing	0.28	0.81
Franchising	0.28	0.80
Relational Capability		
Stay together during adversity/challenge	0.56	0.70
Feel indebted to our partners for what they have done for us	0.33	0.73
Expect that we will be working with our partners far into the future	0.49	0.71
Have close, personal interaction between the partners at multiple levels	0.59	0.70
See the value in mutual respect between the partners at multiple levels	0.68	0.69
Nurture mutually beneficial relationships	0.69	0.70
Successfully terminate a partnership once it has exceeded its useful lifespan while maintaining good business relations	0.27	0.74
<i>Have difficulty communicating our needs to others</i>	-0.15	0.80
Confidently handle negotiations with others	0.49	0.71
Put ourselves in another persons position	0.44	0.72

Easily understand other people	0.43	0.72
Have a level of proficiency of the language of the foreign partners	0.17	0.76
Trust		
They are very competent in the areas in which we interact	0.38	0.65
<i>Their motives could be questioned</i>	0.07	0.80
They have the ability to contribute to cooperative projects	0.48	0.62
We trust they would act in our companies best interest	0.66	0.55
They share our overall goals and values	0.58	0.59
They are generally honest and truthful in the information provided	0.57	0.60
Initiation		
Inform ourselves of their respective markets	0.53	0.80
Inform ourselves of their products/services	0.49	0.81
Determine their strengths and weaknesses	0.70	0.78
Inform ourselves of their strategies and potentials	0.72	0.77
Judge in advance which possible partners we can pursue projects with	0.66	0.79
Seek opportunities to complement our capabilities and resources	0.68	0.79
Routinely gather information about prospective partners from various forums	0.52	0.81
Use organisations, apart from our existing technical partners to identify potential partners	0.30	0.85
Coordination		
We analyze what we would like and desire to achieve with which partner	0.46	0.79
We appoint coordinators who are responsible for the relationships with our partners	0.49	0.79
We discuss regularly with our partners how we can support each other in our success	0.69	0.74
We try to formalise our network relationships	0.71	0.73
The partners engage in joint problem solving while resolving conflicts	0.62	0.76

Great emphasis is placed on dealing with cultural obstacles while resolving conflicts	0.44	0.80
Learning		
We ensure that strategic decisions are informed by our networking activities	0.46	0.82
We value employee feedback for strengthening networking relations	0.45	0.83
We conduct periodic reviews to understand what we are doing	0.58	0.81
We periodically collect and analyze field experiences from our networks	0.63	0.80
We modify our network related procedures as we learn from experience	0.61	0.80
Resources such as network manuals are developed	0.68	0.79
Company managers attend training programmes on network management	0.52	0.82
The company provides opportunities for on-the-job network training	0.54	0.82
Human Capital Resources		
We have the management expertise to assess foreign market potential	0.78	0.89
We have the expertise to manage our network relationships	0.51	0.92
We have the industry knowledge to pursue foreign markets	0.85	0.88
We have technical expertise to assess foreign market potential	0.83	0.89
We have international experience in doing business in new markets	0.79	0.89
We have international experience in cooperating with other firms	0.77	0.89
Synergy Sensitive Resources		
Network relationship allow efficient use of our firms resources	0.77	0.71
Network relationships lead to sound economic use of our firm	0.77	0.72
Network relationships allow effective use of our firms knowledge base	0.74	0.72
There is high Complementarity between the resources/capabilities	0.67	0.73

There is high similarity/overlap between the core capabilities of each partner	0.40	0.78
<i>The organisational cultures of our network partners are incompatible with each other</i>	-0.19	0.88
The management and operating styles of our network partners are compatible	0.51	0.76
We strive to achieve synergy through working together	0.57	0.75
Information Sharing		
We share proprietary business information	0.61	0.87
We exchange internal management information timely for each other	0.72	0.85
We share information about competitors and environments	0.63	0.86
We share internal decisions with the partners that might be affected	0.73	0.85
Information is available and accessible in a format that can be easily utilized	0.67	0.86
We have processes to systematically transfer knowledge	0.54	0.87
Information is often spontaneously exchanged	0.71	0.85
Performance		
The Domestic Market Share of your number 1 Product/Service	0.23	0.86
The International Market Share of your number 1 product/service	0.57	0.83
Your Domestic Sales Growth over the past 3 years	0.16	0.86
Your International Sales Growth over the last 3 years	0.72	0.82
Your Average Return on Investment	0.52	0.84
Your total Turnover	0.52	0.84
Your International Turnover	0.74	0.81
Your Total Pre-Tax Profitability	0.46	0.84
Your International Pre-Tax Profitability	0.70	0.82
Customer satisfaction in international markets	0.62	0.83
Customer retention in international markets	0.61	0.83

Appendix 8 - Item and Factor Loadings

Rotated Component Matrix(a)																			
	Component																		
	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0
Direct Importing								0.588											
Indirect exporting via agent								0.730											
Indirect exporting via distributor								0.605											
Direct exporting								0.561											
Exporting via foreign intermediary																			
Marketing agreements																			
Patenting agreements										0.617									
Informal partnering arrangements												0.764							
Sales or manufacturing joint ventures											0.801								
Equity Alliances																			
Non equity R & D Alliances																			
Sales or manufacturing subsidiary															-0.580				
Licensing																0.788			
Franchising										0.666									
Stay together during adversity/challenge				0.557															
Feel indebted to our partners for what they have done for us																			
Expect that we will be working with our partners far into the future				0.719															
Have close, personal interaction between the partners at multiple levels				0.733															
See the value in mutual respect between the partners at multiple levels				0.615															

Nurture mutually beneficial relationships				0.573															
Successfully terminate a partnership once it has exceeded its useful lifespan while maintaining good business relations																			
Have difficulty communicating our needs to others																	0.838		
Confidently handle negotiations with others																			
Put ourselves in another persons position										0.709									
Easily understand other people										0.770									
Have a level of proficiency of the language of the foreign partners																0.615			
They are very competent in the areas in which we interact																			
Their motives could be questioned													0.804						
They have the ability to contribute to cooperative projects																			
We trust they would act in our companies best interest								0.822											
They share our overall goals and values								0.782											
They are generally honest and truthful in the information provided								0.645											
Inform ourselves of their respective markets	0.791																		
Inform ourselves of their products/services	0.760																		
Determine their strengths and weaknesses	0.776																		
Inform ourselves of their strategies and potentials	0.789																		
Judge in advance which possible partners we can pursue projects with	0.817																		

Seek opportunities to complement our capabilities and resources	0.779																	
Routinely gather information about prospective partners from various forums													0.639					
Use organisations, apart from our existing technical partners to identify potential partners													0.650					
We analyze what we would like and desire to achieve with which partner	0.684																	
We appoint coordinators who are responsible for the relationships with our partners																		
We discuss regularly with our partners how we can support each other in our success	0.669																	
We try to formalise our network relationships	0.707																	
The partners engage in joint problem solving while resolving conflicts	0.569																	
Great emphasis is placed on dealing with cultural obstacles while resolving conflicts																		
We ensure that strategic decisions are informed by our networking activities	0.618																	
We value employee feedback for strengthening networking relations	0.548																	
We conduct periodic reviews to understand what we are doing	0.615																	
We periodically collect and analyze field experiences from our networks																		
We modify our network related procedures as we learn from experience	0.519																	

Resources such as network manuals are developed							0.766													
Company managers attend training programmes on network management							0.815													
The company provides opportunities for on-the-job network training							0.809													
We have the management expertise to assess foreign market potential		0.815																		
We have the expertise to manage our network relationships																				
We have the industry knowledge to pursue foreign markets		0.864																		
We have technical expertise to assess foreign market potential		0.844																		
We have international experience in doing business in new markets		0.806																		
We have international experience in cooperating with other firms		0.794																		
Network relationship allow efficient use of our firms resources						0.738														
Network relationships lead to sound economic use of our firm						0.771														
Network relationships allow effective use of our firms knowledge base						0.769														
There is high Complementarity between the resources/capabilities						0.687														
There is high similarity/overlap between the core capabilities of each partner																				
The organisational cultures of our network partners are incompatible with each other																				0.798
The management and operating styles of our network partners are compatible																				

We strive to achieve synergy through working together	0.540																	
We share proprietary business information			0.708															
We exchange internal management information timely for each other			0.695															
We share information about competitors and environments			0.746															
We share internal decisions with the partners that might be affected			0.712															
Information is available and accessible in a format that can be easily utilized			0.673															
We have processes to systematically transfer knowledge																		
Information is often spontaneously exchanged			0.715															
Extraction Method: Principal Component Analysis. Rotation Method: Quartimax with Kaiser Normalization.																		
a	Rotation converged in 14 iterations.																	

Appendix 9 – Industry Profile

Globally, the telecommunications industry is more than 100 years old and is undergoing something of a revolution that is transforming the face of telecommunications. Following a ‘slump’ in the early years of the new millennium, the industry has changed direction and is now back on course, with growth estimates predicted to be around 5% – 7% with a total global revenue reaching 2.2 trillion dollars in 2010 (Eastwood, 2006). However, it is not voice services that will drive this growth, but high-speed data services such as mobile, Internet and email access.

In industry parlance, the phrase ‘pots and pans of telecoms’ refers to the transition from POTS (Plain old telephone service) to PANS (Pretty awesome new services) which covers all aspects of technology convergence such Voice Over Internet Protocol (VOIP), wireless networking and the digital universe in general.

According to Heilmeier (1998), there are three factors forcing this transition in telecommunications: competition, customer-related concerns and cost. It was the convergence of computing, communication, and services that really began to drive the most recent major changes in this industry. That convergence essentially led to deregulation, and deregulation led to domestic as well as international competition. And, it led to some teaming, which in some cases seemed an unnatural act. Another result of deregulation was that size really became important; diversity became important, resulting in an increase in mergers and acquisitions in the industry. Large telecommunications network owners were suddenly finding themselves in a world with increased intense competition (Heilmeier 1998). A key driver has been the competitive struggle between the fixed line providers, the fixed wireless companies, cable and satellite, and recently mobile operators (Chrisholm 2008). Turning towards the customer, consumers spend their money with companies that bring them better services at ‘keener’ prices. Looking at trends in consumer expenditure, it is possible to discern what it is that today’s digital consumer really wants:

First of all, they want *better value*. Secondly, the consumer wants *more control* – witnessed by the success of time-shift digital TV recorders, or demand for 24-hr access to online services. Thirdly, they are interested in *mobility* – in the last quarter of 2007, for the first time in Ireland, mobile networks took over half of all voice traffic; and

mobile broadband (HSDPA) services - added over 39,000 customers, 42% of net additions in Ireland (ComReg 2007). Fourthly, consumers are seeking more *involvement* – the so-called Web 2.0 phenomenon, in which hundreds of millions of people have started to use the web to make their own content and shape their own online identity, through a host of social networking and virtual reality services. In Ireland alone, one million adults have created content on the Internet in the form of Bebo, MySpace, Facebook or SecondLife (Amarach 2008).

The third forcing factor is cost. Traditionally, costs in the telecommunications industry, meant operating costs and capital expenditures. Those are still important. However, there is now a new dimension to what costs mean in this industry according to Heilmeier (1998). In addition to labour, facilities, and maintenance, the focus is now on barriers to value-added activity and their related costs. The changing nature of the industry is forcing traditional telecoms operators (fixed and wireless) to deploy new technologies and networks in order to seek new revenue streams and develop new lines of business in an increasingly competitive market (Eastwood 2006). Costs from a customer standpoint however, are decreasing. Overall, communications costs have fallen substantially over the last 10 years (CSO 2007). Competition has intensified, for example, in the last quarter of 2007, 99,000 Irish people switched their mobile account from one provider to another, and 93,000 people took out new broadband accounts – from over 20 competing providers (ComReg 2007). This resulted in increased pressure for companies operating in this sector working with tighter margins.

This growing trend of new communication technologies points to convergence, which refers to the tendency to integrate digital audio, video, text, and data into new devices and networks (Baldwin & Gellatly 1998; Atkin 2002). The cellular telephone exemplifies this convergent trend (Wei 2008). High-tech mobile phones not only transmit voice, but also offer an interactive interface on a colour LCD display capable of handling voice, text, video, music, and graphics. A high-end 3G (Third Generation) model is equipped with a microphone, camera, and Internet connection. Users can make calls, and send and receive text and photo messages—including SMS (Short Message Services). Wireless carriers offer a variety of mobile content services, including news, weather, sports scores, and stock updates, games, music, e-mail, and the Web. News organisations such as CNN partner with wireless carriers to deliver news to subscribers

via mobile phones. For example, 'CNN to go' offers subscribers news and breaking news alerts. ESPN provides live scores of professional and collegiate games in its wireless hoops alerts. With its new functionality, the mobile phone as a hybrid medium has become an integral part of the mass communications mix (Bates et al., 2002) offering an alternative channel of communication (for instance, the news of the SARS outbreak in China broke first by mobile phone users' text messaging) and entertainment (such as voting on Eurovision by SMS).

In turn, this convergence of technologies is fuelling strong merger and acquisition activity in the sector, especially in the US, for example the merger between AT & T and Bell South in 2006, SBC's acquisition of AT&T in 2005, the acquisition of MCI by Verizon Communications and the purchase of Vodafone's Japanese business by Softbank (Eastwood 2006). Examples of this activity in Europe include Telefonica's take-over of O2 in 2006, Vodafone's takeover of Perlico in 2008 and O2's landline agreement with Eircom in 2008.

The digital universe now encompasses most of the media and communications markets. Not only are the majority of telephone handsets and television receivers now digital - as computers have long been - but so too are the transmitters, switches, routers and other devices that are needed to deliver the service. Chisholm (2008) suggests the move to digital is important for two main reasons. First, it has brought into play new technologies for compression, storage and transmission which - in tandem with advances in computer processing power and microelectronics - have enabled a vast new array of products and services to be made available to consumers. These offers have generally come to market more quickly, at lower cost, and on more flexible terms. Secondly, by putting the telecoms, media, and IT industries onto the same footing, the move to digital has affected a convergence between these industries, the delivery platforms they use, the services they offer, and the devices used to receive them. This has further extended the choices available to consumers, and the intensity of competition between alternative providers.

The telecommunications Industry in Ireland is an important sector in the Irish economy in terms of size and employment. Recently published information on the Irish telecommunications market shows that total revenues for fixed, mobile and

broadcasting markets for the twelve months for December 2007 were €4.54 bn. (ComReg 2008).

The Irish Communications market has developed significantly in recent decades and more particularly in the years since full liberalisation of the market in 1998. Prior to 1998, the Irish telephone market was heavily regulated and there was only one corporation providing virtually all telecommunication services to the Irish public - a state-owned body called Bord Telecom Eireann. Table 1 provides a summary of the key milestones in the history of the industry prior to liberalisation.

Table 1: Summary of the key milestones in the history of Irish Telecoms

- | |
|--|
| <ul style="list-style-type: none">• 1876: Alexander Graham Bell invents the telephone.• 1880: United Telephone is formed in England, overseeing Great Britain's telephone lines.• 1882: Telephone Company of Ireland takes over United Telephone's Irish operations.• 1893: Britain's new National Telephone Co. steps in to oversee and improve Irish telecommunications.• 1911: British Post Office assumes control of National Telephone.• 1922: New Irish government gives its Department of Posts and Telegraphs (P and T) responsibility for developing country's phone service.• 1978: The Dargan Report reveals that Irish telephone system is in need of an overhaul.• 1979: Telecom Eireann is formed.• 1983: Telecom Eireann formally takes charge of Ireland's phone service.• 1993: First private competitor to Telecom Eireann receives operating license.• 1998: On the 1st December, deregulation of the Irish telecommunications market took effect. 21 general licences were awarded to firms to begin providing telecoms networks and services to the Irish public• 1999: Telcom Eireann becomes a public company; changes name to eircom plc. |
|--|

Communication has been transformed by the growth of mobile telephony; the use of the internet and the development of products which allow higher speed data products which can be accessed by end-users (ComReg 2003). The period since liberalisation to 2007, has coincided with one the strongest periods of continuous growth for the Irish economy. Overall growth levels have averaged in excess of 7%, the highest in the EU and one of the highest in the developed world. Incomes in Ireland since 1997 have grown by almost 30%. A combination of these factors and a desire for increased convenience and mobility has also acted as a spur for the communications sector. Since liberalisation of the sector in 1997, telecommunications prices have fallen by almost 20% in nominal terms, while overall per capita spending has almost doubled from €547

to €964. This growth is largely due to mobile phones usage, which now stands at a penetration rate of 116% of the population (ComReg 2008). Low fixed-line penetration levels, coupled with high fixed-line subscription costs, have been significant contributors to the high adoption rates of mobile telecoms in Ireland, allowing mobile telecoms to ‘leapfrog’ their fixed-line counterparts. Other factors behind the success of mobile telecoms in Ireland are considered to be the fact that Ireland has a young, very mobile population, and that Irish people are generally recognised as socially liking to *talk a lot* (Hopkins & Fynes 2006).

The communications sector is worth an estimated €4 billion in direct contribution to the economy each year, as well as providing over 15,000 jobs (ComReg, 2005a). The use of Information and Communications Technologies (ICT) is also important in improving efficiency and productivity in the economy in general; the OECD estimates that it contributes around 1% to annual GDP growth in Ireland, the second highest in Europe (OECD 2007). The growth of the Internet is certainly facilitated by the existence of a developed and well functioning telecommunications sector offering affordable services to a majority of the population (Guillen & Saurez 2001). The communications sector is a sector of critical importance to all businesses in terms of conventional voice and data services, but also as an essential enabler of e-business (ComReg 2003).

Briefly, the distinguishing features of the industry appear to be:

- At one level, deregulation and technical change have transformed the industry.
- On another level, tight regulatory control is maintained at EU and national level.
- Intelligent network technology can help innovative companies stay ahead of the competition by creating pretty amazing new services (PANS).
- Presence of dominant players in large sections of the market. For example, mobile and fixed line.
- Convergence in technologies will continue to be a future reality.
- Consumer needs in terms of costs, mobility, control and involvement are driving the demand for products/services.

In summary, the privatization and deregulation of the telecommunications markets, ongoing regional economic integration, the change in world capital markets, significant changes in technologies, and convergence of previously distinct industries, are forcing

companies to engage in a search process for additional resources, capabilities and other activities in an attempt to survive in the new competitive environment. External sourcing activities such as inter-firm partnerships, mergers and acquisitions, have been an important element in the overall strategy of companies to deal with the new requirements and demands.