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Competencies, Capabilities, and Relational factors in Buyer-Supplier Business-to-Business Networks

A multiple article approach

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Abstract

Most of today's knowledge of Business-to-Business marketing is grounded on studies conducted in so-called western countries. Recently some researchers have started to question the validity of concepts, ideas and measures conceived in developed markets to explain business marketing phenomena in non-western contexts. Moreover research has attributed this gap in the literature to the relative absence of Business-to-Business marketing research from emerging, non-western countries (see, for example, Biggemann and Fam, 2011). In emerging markets firms also operates in large networks that contains multiple, complex, direct and indirect business relationships among buyers and sellers. Therefore the field of Business-to-Business marketing are to gain from an emerging market perspective.

The field of Industrial Marketing, over many years, benefited from various theoretical positions including, transaction cost theory, agency theory, stakeholder theory, resource based theory, and more recently network theory. This network approach emerged in the area of industrial marketing some twenty years ago and was primarily an attempt to account for the complex reality of inter-organisational exchanges. At the same time the Business-to-Business literature also emphasises relationships between firms as the fabric of their exchanges. Deeply rooted in the service marketing literature, business relationships are today widely accepted as key determinant of competitiveness in business markets. Given these phenomena, this thesis contributes to narrowing the literature gap by considering buyer-supplier network relationships from in an emerging market context. The thesis draws on four different empirical studies to integrate key sets of knowledge spawned from the realms of the Industrial Marketing and Purchasing group (IMP) to observe Business-to-Business relationships in a South African context.

The first study demonstrates the importance of a relationship orientation in a Business-to-Business context by contrasting it with an innovation orientation that enjoys similar literature support. The notion of strategic orientation (such as market orientation, stakeholder orientation, relationship orientation, innovation orientation, etc.) remains a key area of scholarly attention and it attempts to capture the macro setting for thinking about business management. Although the literature informs us that strategic orientations may be varied and a single firm might adopt multiple orientations, many of these orientations has been linked to superior firm performance. This study specifically confirmed the positive relationship between adopting a relationship orientation and various measures of performance. In essence this reinforces the general consensus that especially in Business-to-Business markets, but not exclusively, the value of good business relationships should not be underestimated.

Business-to-Business relationships rarely exist in isolation, and the IMP literature in particular argues that such relationships, even when they are transactional in nature, operate in an interconnected environment of complex Business-to-Business networks. This environment is constituted by various actors, resources and activities that translate into multiple actor links, activity ties and resource constellations. Hence, the ability of the firm to function optimally in such an environment is related to how well it manages in networks as well as how well it manages the networks. Therefore the second study builds on earlier research to motivate the conceptualisation and measurement of network competence in Buyer-Supplier Relationships while the third study use this established platform to extend the idea of network competence to that of network capability through employing a resource-based view of the firm. The second study refines a measure of network competence, and then

shows how it is impacted by personal and firm factors, while the third study considers how both constructs, network competence and network capability, are related to firm performance. The results suggest that network capability is associated with better performance and advises that firms should seek to enhance their networking capabilities.

In closing the loop, the final (fourth) study turns to dyadic relationships within a Business-to-Business buyer network by modelling the mediating effects of relational drivers. It demonstrates that the linkage between customer satisfaction and loyalty is fully mediated by trust and commitment while the sharing of information between actors also plays an important role. Although many researchers employed social exchange theory to show the impact of trust and commitment in Business-to-Business relationships, this study ventures into a technology environment in an emerging market. Arguably, emerging markets provide a rich context in which to understand the relative strengths and weaknesses of different perspectives on Business-to-Business relationships. This is magnified by the heterogeneity of emerging economies, as there is considerable variation in their economic progress and institutional development. Therefore, considering the mediators in the quality-satisfaction-loyalty relationship framework in an emerging market context contributes to filling this gap in the literature. In general this research contributes to the understanding Business-to-Business networks and relationships in an emerging market context and lands the work of the IMP group on South African shores.

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Preface

Except for commonly understood and accepted ideas, or where specific reference is made, the work reported in this dissertation is my own. This dissertation does include previously published work as it is based on a compilation of four papers that I have published. This was fully disclosed at the proposal stage and accepted by the Doctoral Degrees Board of the University of Cape Town. The four papers with their corresponding chapters are:

- Chapter 1: *Human, G.J.P. and Naudé, P. 2010. Relationship and Innovation Orientation in a Business-to-Business Context. South African Journal of Business Management. 41(4)15-26. (ISSN 0378-9098: ISI and DoE accredited).*
- Chapter 2: *Human, G.J.P. 2009. Measuring Network Competence in Buyer-Supplier Relationships. South African Journal of Economic and Management Sciences. 12(4)429-447 (ISSN1015-8812, ISI and DoE accredited).*
- Chapter 3: *Human, G.J.P. and Naudé, P. 2009. Exploring the relationship between network competence, network capability and firm performance: A resource-based perspective in an emerging economy. Management Dynamics 18(1)2-14 (ISBN 1019-567X, DoE accredited)*
- Chapter 4: *Human, G.J.P., Naudé, P. and Botha, E. 2011. The mediating effects of relational drivers in a Business-to-Business buyer network. Paper read at the 27th annual conference of the Industrial Marketing and Purchasing Group, Glasgow, UK.*

No part of the dissertation has been previously submitted to any university for any degree, diploma or other qualification.

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Abbreviations

AGFI	Adjusted Goodness of Fit Index
ANOVA	Analysis of Variance
B2B	Business-to-Business
BEE	Black Economic Empowerment
CAD	Computer Aided Design
CBT	Competence-Based Theory
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
EFA	Exploratory Factor Analysis
GFI	Goodness of Fit Index
HR	Human Resources
IMP	Industrial Marketing and Purchasing Group
PLS	Partial Least Squares
NCA	Network Capability
NCO	Network Competence
NFI	Normed Fit Index
RBT	Resource Based Theory
RMSEA	Root Mean Square Error of Approximation
SEM	Structural Equation Modeling
SET	Social Exchange Theory
SIC	Standard Industrial Classification system of South Africa
TCT	Transaction Cost Theory
SNA	Social Network Analysis
ABM	Agent-based Modelling
QCA	Qualitative Comparative Analysis

Chapter 1: Motivation for the research and overall methodology

1.1 Introduction

Grounded in marketing, this thesis investigates Business-to-Business relationships and networks as important phenomena of the modern business landscape. Not surprisingly buyer-seller relationships and inter-firm networks are the subjects of extensive and diverse scholarly activity. As a consequence, these increasingly relevant realities of economic life foster dialogue between many branches of the social sciences. More specifically, the evolving role of the firm's interaction with multiple stakeholders and partners in a wider relational network/system is receiving increasing attention. The recent world economic crisis has again highlighted the importance of inter-firm relationships for sustainable success in turbulent economic conditions. Accumulated relational capital is providing firms with additional advantage, but also requires development of specific organization-wide competencies and capabilities. While some studies are addressing the so called relational capabilities, there are few studies focusing on the firm's capabilities in managing wider relational networks. Hence, the primary focus of the thesis is the substantial research gap of addressing network competencies and capabilities and associated dyadic relational capital in the context of emerging economy, such as South Africa.

In this chapter the research rationale that follows provides the background against which the research program (made up by four separate empirical studies) was executed. It motivates the importance of the study with references to:

- The context of the study - business-to-business marketing in an emerging (South African) market.
- How critical it is for firms to adopt a relationship orientation with specific reference to its linkage with firm performance.
- The challenge of business-to-business networks with a particular focus on network competencies and capabilities by adopting the resource-based view (RBV) of the firm perspective.
- The importance of understanding the drivers in dyadic buyer-seller relationships that are embedded in networks and therefore part of the challenge to manage in a network.

The discussion on the rationale for the study is followed by the overall objectives of the study and provides the broad framework within which the research was executed. In turn, this section is followed by a description of the research methods as employed in each of the four studies (essays). The chapter concludes with insights regarding the expected contribution of the research.

It must be stressed how the approach taken here differs from what might be termed 'classical' marketing. Since marketing started to emerge as an academic discipline in the early 1900s in northern America, the task of marketing was seen as something that companies did to 'get customers.' Companies proactively sought out rather passive customers, and did so by manipulating a set of variables that they as managers controlled. According to Banting and Ross (1973) an extensive list (allegedly more than 20) were originally identified by Borden in a 1953 American Marketing Association presidential

address, but this was eventually whittled down to the famous 4P's as identified by Jerome McCarthy in 1960. So marketing was seen as the act of managers manipulating particular variables, seeking to combine them in some optimal way, in order to get customers to respond in some desired way. The logical consequence of adopting this approach is that the unit of analysis is a customer: a new customer, a potential customer, an ex-customer - but always a customer.

This view was challenged in a rather radical way by the early researchers in the Industrial Marketing and Purchasing Group, a group of European academics that came together in the late 1970s to study matched pairs of buyers and sellers across a number of countries. Their starting point was fundamentally different. As stated in the introduction in Håkansson's (1982:1) book, the group's position was that:

“We challenge the concentration of the industrial buyer literature on a narrow analysis of a single discrete purchasethe view of industrial marketing as the manipulation of the marketing mix variablesthe view which implies an atomistic structure in industrial market. This view assumes a large number of buyers and sellersThe separation which has occurred in analysing either the process of industrial purchasing or of industrial marketing”

This is the position is also taken in the current research. Adopting the IMP Group's perspective, marketing is seen as something that takes place not within a selling firm, but between two firms. It is a process of both sides interacting to manage a relationship to

their mutual benefit. Then implication of adopting this perspective is that a different unit of analysis is now required. Instead of adopting the monadic approach so typical of the north American view, what is now required is more of a dyadic approach, where it is the relationship, rather than just the customer, that is studied.

But of course no relationships exist in isolation. They are always influenced by other actors beyond the immediate relationship: buyers are influenced by what it is that their customers want in turn, just as suppliers are influenced by the technology available to their suppliers. And this influence is more pervasive than simply adopting a supply-chain perspective: what firms do is also influenced by other 'outside' parties such as competitors, legislators, or new entrants with newer technologies. It is the realisation of the role that these external parties play that has led the IMP Group to extend its original 'relationship' view to incorporate the 'network' perspective. It is a moot point, of course, as to whether or not a particular firm can 'manage' its own network, and for this reason the phrase of 'managing in networks' is often preferred to that of 'managing networks.' As will become clear in the next few chapters, it is this expanded view, of seeing marketing as being the process of relationship management and/or of having to manage within a more complex network that dominates the body of work presented here.

1.2 Rationale for the research

Most of today's knowledge of Business-to-Business marketing is grounded in studies conducted in so-called western countries. Recently some researchers have started to question the validity of concepts, ideas and measures conceived in developed markets to explain

business marketing phenomena in non-western contexts (Steenkamp and Burgess, 2002). Moreover research has attributed this gap in the literature to the relative absence of Business-to-Business marketing research from emerging, non-western countries (see, for example, Biggemann and Fam, 2011). In emerging markets firms also operate in large networks that contain multiple, complex, direct and indirect business relationships among buyers and sellers.

The big emerging markets of Brazil, Russia, India, and China, (BRIC) are often referred to as the new (Biggeman & Fam, 2011) development engine of the world and during 2010 and 2011 it was widely argued that South Africa should be included in this group to form BRICS. These countries are different from one another in their culture, background, language, and the structure of their economies. However, in many instances the economic growth in the BRICS has exceeded that of the world's leading industrialized nations. Considered from a Business-to-Business perspective, these countries are building substantial manufacturing and service-providing capacities. For example, China is called the factory of the world whereas India has turned to be a major exporter of information technology and software workers. Brazil is the largest exporter in Latin America, and Russia is the world's largest exporter of oil and natural gas. Similarly, South Africa is the proverbial economic powerhouse in Africa and exports raw materials and services across the globe. This implies significant interaction between BRICS countries and governments and firms around the world. Hence it represents a substantial contribution to global business-to-business interaction. To this end, Khanna, Palepu and Sinha (2005) suggest that firms from emerging markets that have strong networks and well-developed social capital (relationships) may facilitate cooperation in developing knowledge and transferring it locally and/or internationally. At the same time it is cautioned that networks in emerging markets may well face complex operational challenges because of the limited legal and institutional infrastructure preventing their fluid operation.

From a scholarly perspective, the potential contribution of testing emerging theories in management and marketing in a variety of international contexts is well documented (Nairn, Ede and Naudé, 2004; Rossiter, 2002; Stacey, 2005; Steenkamp and Burgess, 2002; Steenkamp and Trijp, 1997; Sweeney, Hausknecht and Soutar, 2000; Wright *et al.*, 2005). More specifically, investigating the usefulness of measures used in marketing in a context other than the one in which it was conceived, may yield additional insights (Sweeney *et al.*, 2000) that can assist researchers in avoiding the temptation to treat such measures opportunistically. Moreover, many authors (Bandyopadhyay, 2001; Burgess, 2003b; Cavusgil, 1997; Khanna *et al.*, 2005; Klemz *et al.*, 2005; Sowinski, 2000; Wright *et al.*, 2005) agree that businesses in emerging markets face unique challenges, and the assumption that strategies that are successful in developed markets will work in emerging markets should be avoided. Emerging markets may provide a new context in which to understand the relative strengths and weaknesses of these different perspectives. Therefore the field of Business-to-Business marketing stands to gain from adopting an emerging market perspective. In particular, investigation “Relationships” and “Networks” (often considered the traditional research domain of Industrial Marketing and Purchasing group (IMP) scholars – see Golfetto, Salle, Borghini and Rinallo, 2007), in the context of emerging markets should contribute to the global orientation towards relationships and networks.

Strategic orientation reflects the strategic directions implemented by a firm to guide its proper activities for continuous superior performance (Gatignon & Xuereb, 1997). Viable strategic orientations include market (Kohli & Jaworski, 1990; Narver & Slater, 1990), technology (Gatignon & Xuereb, 1997), and selling orientations (Noble *et al.*, 2002), of which market

orientation has received the most research attention. The idea of strategic orientation (Miles and Snow, 1978) is often employed to describe the overall dominant logic that represents a firm's competitive posture based on its conceptualisation of the internal and external situation and/or environment. This research on strategic orientation also notes that it is plausible for a firm to adopt multiple strategic orientations (Kohli and Jaworski, 1990; Narver and Slater, 1990). However, many of the studies (as reported in chapter 2) demonstrate the positive relationship between market orientation (specifically) and firm performance. The notion of market orientation is also relevant in business-to-business markets (Smirnova *et al.*, 2011) and with the increasing attention to relationship marketing it spawned the idea of relationship orientation. Relationship orientation received contributions from the literature in service marketing, sales (selling) management, marketing channels, interaction and networks, and the guanxi literature in China (Sin *et al.*, 2005b). Studies in the field of marketing have referred to the term relationship orientation as it builds on the philosophical grounding of market orientation that suggests understanding customer needs is the key to customers' satisfaction and firm performance. To date, research that examines the linkage between relationship orientation and firm performance in an emerging market remains scant. This provides the rationale for considering "relationship orientation" in this research.

The management literature reflects that, despite criticism (Baraldi *et al.*, 2007), analysing firm resources and capabilities in order to select strategies that are most likely to offer good returns seems to remain a key area of scholarly enquiry. The resource-based perspective emphasises the importance of key resources in achieving a competitive advantage (Fahy *et al.*, 2005; Fahy and Smithee, 1999; Teck-Yong, 2005). Assuming that relationships and networks are considered to be resources themselves, then the relationship and network approach to strategy has something in common with the RBV in that the current resources of

the firm are considered to be the key factor in determining the firm's strategic behaviour. While the RBV focuses on three principal categories of resources, the relationship and network approach identifies the firm's portfolio of relationships and its network of positional resources as the key factors in strategy formulation (Ford and Hakansson, 2006; Foss, 1999). It then follows that the concept of network competencies and capabilities is derived in part from the RBV of a firm. Therefore this study employs resource-based theory (RBT) to construct a development path for network competencies and network capabilities. It assumes that the role of competencies in industrial marketing in particular focuses on:

- Established approaches to deal with competencies as inputs to firm processes in an attempt to use customer relationship management, channel design, etc., to achieve superior financial returns.
- The marketing of competencies as a source of customer value.

It is therefore conceivable that RBT provides a vehicle to consider network competencies and capabilities. The literature on network competencies and capabilities is in its infancy and business-to-business researchers have only now begun to consider its definition, measurement and consequences. Therefore the motivation to consider (a) the measurement of network competencies and capabilities, and (b) its relationship to firm performance is based on a vast chasm in its development and the near complete absence of an emerging market analysis.

The study of business relationships has leaned on social exchange theory since the late eighties. More recently the insights and perspectives offered by network theory sought to advance the understanding of buyer-supplier relationships in complex networks. This shift (Fill and Fill, 2005; Russell-Bennet, McColl-Kennedy and Coote, 2007) from dyadic to more complex relationships in networks currently enjoys considerable research attention –

especially from IMP (the Industrial Marketing and Purchasing Group) researchers. Despite this attention the research appears to vary significantly as a wide variety of variables have been used to study relationships and there is little consensus on what is necessary and sufficient to explain such relationships (Brennen, Canning and McDowell, 2007; Anderson and Mittal 2000).

In addition, mounting empirical evidence has led to the formulation of numerous hypotheses regarding critical relationship processes and the role of relationships between market actors (Håkanson, Harrison and Waluszewski, 2004; Sirdeshmukh, Singh and Sabol, 2002). At the same time Rampersad, Quester and Troshani (2010) noted that despite increases in the complexity and prominence of these networks, empirical studies investigating their performance are still sparse. Hence, although various meta-analytical contributions have been made (Geyskens, Steenkamp and Kumar, 1999; Palmatier *et al.*, 2006; Pels, Möller and Saren, 2009; Rajamma, Zolfagharian and Pelton, 2011), models to explain the variance exhibit considerable variation in their conceptualisation. It is therefore imperative that emerging market research also considers business-to-business relationships at a dyadic level yet focus on exchanges within a network. This provides the rationale for the final component of the research to consider drivers in relational dyads of a buyer network.

1.3 Objectives and research programme

The field of Industrial Marketing, over many years, benefited from various theoretical positions including transaction cost theory, agency theory, stakeholder theory, resource based theory, and more recently network theory. This network approach emerged in the area of industrial marketing some twenty years ago and was primarily an attempt to account for the complex reality of inter-organisational exchanges. At the same time the Business-to-Business

literature also emphasises relationships between firms as the fabric of their exchanges. Deeply rooted in the service marketing literature, business relationships are today widely accepted as key determinant of competitiveness in business markets. Given these phenomena, this thesis contributes to narrowing the literature gap by considering buyer-supplier network relationships in an emerging market context. The thesis draws on four different empirical studies (summarised in Table 1.1) to integrate key sets of knowledge spawned from the realms of the Industrial Marketing and Purchasing Group to observe Business-to-Business relationships in a South African context.

The first study (chapter 2) demonstrates the importance of a relationship orientation in a Business-to-Business context by contrasting it with an innovation orientation that enjoys similar support in the literature. The notion of strategic orientation (such as market orientation, stakeholder orientation, relationship orientation, innovation orientation, etc.) remains a key area of scholarly attention and it attempts to capture the macro setting for thinking about business management. Although the literature informs us that strategic orientations may be varied and a single firm might adopt multiple orientations, many of these orientations have been linked to superior firm performance. This study specifically confirmed the positive relationship between adopting a relationship orientation and various measures of performance. In essence this reinforces the general consensus that especially in Business-to-Business markets, but not exclusively, the value of good business relationships should not be underestimated. Moreover, according to Mariadoss, Tansuhaj and Mouri (2011) understanding the relationships between marketing capabilities and innovation-based sustainability strategies is both theoretically and managerially relevant.

Table 1.1: Summary of the objectives of each chapter (published article) and how it leads to the following chapter

	Title	Underlying Theory	Foundational sources	Principle objective	Relationship to the following chapter
Chapter 2	<i>Relationship and Innovation Orientation in a Business-to-Business Context</i>	Systems Theory Contingency-Based Theory Market Orientation	Berthon <i>et al.</i> (2004) Kohli & Jaworski (1990) Narver & Slater (1990) Sin <i>et al.</i> (2005a) Sin <i>et al.</i> (2005b) Fynes & Voss (2004)	The importance of a relationship orientation in a Business-to-Business context	Confirming the importance of relationships in a B2B context, the argument can be extended to networks to assist in the understanding of the competencies and capabilities required to manage relationships within a network. The latter is the focus of chapter 3.
Chapter 3	<i>Measuring Network Competence in Buyer-Supplier Relationships</i>	Resource-Based Theory Network Theory	Ritter (2006) Golfetto and Gibbert (2006) Ritter and Gemünden (2003) Hakansson and Ford (2002) Wilkinson and Young (2002) Ritter <i>et al.</i> (2002) Achrol and Kotler (1999) Möller and Halinen (1999) Ford <i>et al.</i> (1998) Anderson <i>et al.</i> (1994)	To isolate what constitutes Network Competence and propose a reliable and valid measure for it under South African circumstances.	In the literature, Resource-Based Theory was extended to consider the idea of Competence-Based theory which led IMP scholars to ask: <i>What are the competencies needed to manage in B2B networks?</i> This resulted in the idea of Network Competence. By confirming valid and reliable measures for Network Competence (consistent with the path of theory building in the literature) makes it possible to consider the notion of Network Capabilities in chapter 4.
Chapter 4	<i>Exploring the relationship between network competence, network capability and firm performance: A resource-based perspective in an emerging economy</i>	Resource-Based Theory Network Theory	Walter <i>et al.</i> (2005) Prashant Kale (2002) Anand and Khanna (2000) Lorenzoni & Lipparini (1999)	To isolate what constitutes Network Capability and propose a reliable and valid measure for it under South African circumstances. To test the relationship between Network Competence, Network Capability and firm performance in general.	With measures for Network Competence and Network Capability confirmed, the relationship of both these to firm performance can be tested. Subsequently, with the above-mentioned relationships confirmed, the path is clear to venture into a particular network and consider the dyadic drivers of relationships between actors in chapter 5.
Chapter 5	<i>The Mediating Effects of Relational Drivers in a Business-to-Business Buyer Network</i>	Market Orientation Social Exchange Theory Agency Theory Transaction Cost Theory	Cannon & Perreault (1999) Morgan & Hunt (1994) Anderson & Narus (1990) Palmatier <i>et al.</i> (2005, 2007, 2008) Anderson & Weitz (1992) Larges, <i>at al.</i> (2008) Hooley <i>et al.</i> (2005) Homburg <i>et al.</i> (2004) Cater & Cater (2011)	To consider the moderating and mediating effects of selected relational factors in the casual relationships between drivers of business-to-business relationships	With results for both a network level analysis and a dyadic relationship level analysis, the research can be integrated to offer its combined contribution in chapter 6
Chapter 6	<i>Conclusions and Recommendations</i>	N/A	N/A	To integrate the results of preceding chapters by: <ul style="list-style-type: none"> • providing a summary of the results of the overall research program; • offering insights to guide future research; and • suggesting practical recommendations to managers. 	

Business-to-Business relationships rarely exist in isolation, and the IMP literature in particular argues that such relationships, even when they are transactional in nature, operate in an interconnected environment of complex Business-to-Business networks. This environment is constituted by various actors, resources and activities that translate into multiple actor links, activity ties and resource constellations. Hence, the ability of the firm to function optimally in such an environment is related to how well it manages in networks as well as how well it manages the networks. Therefore the second study (chapter 3 - see table 1.1) builds on earlier research to motivate the conceptualisation and measurement of network competence in Buyer-Supplier Relationships while the third study (chapter 4 - see table 1.1) uses this established platform to extend the idea of network competence to that of network capability through employing a resource-based view of the firm. The second study refines a measure of network competence, and then shows how it is impacted by personal and firm factors, while the third study considers how both constructs, network competence and network capability, are related to firm performance.

In closing the loop, the final study (chapter 5 – see table 1.1) turns to dyadic relationships within a Business-to-Business buyer network by modelling the mediating effects of relational drivers. It attempts to demonstrate that the linkage between customer satisfaction and loyalty is fully mediated by trust and commitment while the sharing of information between actors also plays an important role. Although many researchers employed social exchange theory to show the impact of trust and commitment in Business-to-Business relationships, this study ventures into a technology environment in an emerging market. Arguably, emerging markets provide a rich context in which to understand the relative strengths and weaknesses of different perspectives on Business-to-Business relationships. This is magnified by the heterogeneity of emerging economies, as there is considerable variation in their economic

progress and institutional development. Therefore, considering the mediators in the quality-satisfaction-loyalty framework in an emerging market context contributes to filling this gap in the literature. In general this research contributes to the understanding of Business-to-Business networks and relationships in an emerging market context and lands the work of the IMP Group on South African shores.

1.4 Methods

As summarized in table 1.2 each of the four research papers will employ its own particular methodology. Because all four articles were published in accredited journals, the methodology they employed needs to be rigorous enough to be accepted via a peer review process. Only journals with a minimum of a double blind peer review process and with either an International Science Institute (ISI) or an International Bibliography of the Social Sciences (IBSS) listing were considered for this publication. From table 1.2 it is evident that each paper was based on a separate sample with its own limitations and analytical procedures as explained in each of the corresponding chapters.

Some of the advanced analytical procedures require additional explanation because the intrinsic limitations of journal articles do not allow for an extensive discussion in this regard. Therefore a discussion of covariance based structural equation modelling and variance based structural equation modelling, the approaches employed to test for mediation and moderation, as well as a brief introduction to reflective versus formative approaches to modelling are offered after Table 2.1.

Table 1.2 Summary of methods used across four studies

	Chapter 2	Chapter 3	Chapter 4	Chapter 5
Title	<i>Relationship and Innovation Orientation in a Business-to-Business Context</i>	<i>Measuring Network Competence in Buyer-Supplier Relationships</i>	<i>Exploring the relationship between network competence, network capability and firm performance: A resource-based perspective in an emerging economy</i>	<i>The Mediating Effects of Relational Drivers in a Business-to-Business Buyer Network</i>
Context	Emerging market Business-to-Business relationships in general	Buyer-Supplier Networks in an emerging market	Buyer-Supplier Networks in an emerging market	A specific B2B buyer network in an emerging market
Industry focus	Multiple industries	Multiple industries	Multiple industries	Computer Aided Design industry
Primary unit of analysis	B2B relationships in general	B2B relationships in a network context	B2B network relationships	Specific B2B relationship with focal supplier firm
Qualitative method	4 semi-structured interviews	None (used a pilot study)	8 In-depth Interviews	3 Expert Interviews 1 Focus group
Method of data collection	Postal survey	Postal survey	Postal survey	Electronic Survey
Pilot Study	No	Yes	No	No
Instrument Pre-testing	Yes	Yes	Yes	Yes
Measurement instrument	Published Multi-item Scales	Published Multi-item Scales	Published Multi-item Scales	Published Multi-item Scales
Empirical design	Cross-sectional	Cross-sectional	Cross-sectional	Longitudinal type
Primary Constructs	Innovation Orientation (Berthon <i>et al.</i> 2004) Relationship orientation (Sin <i>et al.</i> 2005) Firm Performance (Fynes & Voss, 2004)	Network Competence (Ritter <i>et al.</i> 2004)	Network Competence (Ritter <i>et al.</i> 2004) Network Capability (Walter <i>et al.</i> 2006) Firm Performance (Fynes & Voss 2002 and Homburg <i>et al.</i> 2004)	Perceived Product Quality (Matzler, 2004; Chakraborty <i>et al.</i> 2007 and Zeelenberg & Pieters, 2004) Perceived Service Quality (Busacacca & Padula, 2005 and Matzler, 2004) Relationship Satisfaction (Larges <i>et al.</i> 2008) Trust (Morgan and Hunt, 1994) Commitment (Palmatier, 2008) Information Sharing (Denize & Young, 2007) Attitudinal Loyalty (Palmatier <i>et al.</i> 2008)
Sampling Method	Non-probability convenience	Non-probability purposive	Non-probability convenience	No sampling (population was used)
Sample Frame	Account Managers (Multi-informant)	B2B Managers (Multi-informant)	B2B Managers (Multi-informant)	Purchasing decision makers (Multi-informant)
N	181	495	219	526
Data analysis	Covariance based Structural Equation Modeling (LISREL 8.8) Variance Based Structural Equation Modeling (SmartPLS) Analysis of Variance (SPSS)	Confirmatory Factor Analysis (LISREL 8.8)	Exploratory Factor Analysis (SPSS) Variance Based Structural Equation Modeling (SmartPLS)	Variance Based Structural Equation Modeling (SmartPLS)

Covariance based Structural equation modelling:

Structural equation modelling (Jöreskog et al. 1993 & 1999) grows out of and serves purposes similar to multiple regression, but in a more powerful way which takes into account the modelling of interactions, nonlinearities, correlated independents, measurement error, correlated error terms, multiple latent independents each.

Measured by multiple indicators, and one or more latent dependent variables, each also with multiple indicators. Structural equation modelling (SEM) may be used as a more powerful alternative to multiple regression, path analysis, factor analysis, time series analysis, and analysis of covariance. That is, these procedures may be seen as special cases of SEM, or, to put it another way, SEM is an extension of the general linear model (GLM) of which multiple regression is a part.

Advantages of SEM compared to multiple regression include more flexible assumptions (particularly allowing interpretation even in the presence of multi-collinearity), use of confirmatory factor analysis to reduce measurement error by having multiple indicators per latent variable, the attraction of SEM's graphical modelling interface, the desirability of testing models overall rather than coefficients individually, the ability to test models with multiple dependents, the ability to model mediating variables rather than be restricted to an additive model (as in OLS regression), the ability to model error terms, the ability to test coefficients across multiple subjects groups, and the ability to handle nested data.

Where regression is highly susceptible to error of interpretation by misspecification, the SEM strategy of comparing alternative models to assess relative model fit makes it more robust. SEM is usually viewed as a confirmatory rather than exploratory procedure, using one of three approaches:

- *Strictly confirmatory approach:* A model is tested using SEM goodness-of-fit tests to determine if the pattern of variances and covariances in the data is consistent with a structural (path) model specified by the researcher. However, as other unexamined models may fit the data as well or better, an accepted model is only a non-disconfirmed model.
- *Alternative models approach:* This is a test of two or more causal models to determine which has the best fit. There are many goodness-of-fit measures, reflecting different considerations, and usually three or four are reported by the researcher. Although desirable in principle, this alternative models approach runs into real-world problems in that the researcher may not find two well-developed alternative models to test in the literature
- *Model development approach:* In practice, much SEM research combines confirmatory and exploratory purposes: a model is tested using SEM procedures, found to be deficient, and an alternative model is then tested based on changes suggested by SEM modification indexes. This is the most common approach found in the literature. The problem with the model development approach is that models confirmed in this manner are *post-hoc* ones which may not be stable. That means it may not fit new data, having been created based on the uniqueness of an initial dataset. Researchers may attempt to overcome this problem by using a cross-

validation strategy under which the model is developed using a calibrated data sample and then confirmed by using an independent validation sample.

Regardless of the approach adopted, SEM cannot itself draw causal arrows in models or resolve causal ambiguities. Theoretical insight and judgment by the researcher is still of utmost importance.

Variance based structural equation modelling (Partial Least Squares):

Partial least squares (PLS) is sometimes called "Projection to Latent Structures" because of its general strategy Chin (1998, a & b). The X variables (the predictors) are reduced to principal components, as are the Y variables (the dependents). The components of X are used to predict the scores on the Y components, and the predicted Y component scores are used to predict the actual values of the Y variables. In constructing the principal components of X, the PLS algorithm iteratively maximizes the strength of the relationship between successive pairs of X and Y component scores by maximizing the covariance of each X-score with the Y variables. This strategy means that while the original X variables may be multi-collinear, the X components used to predict Y will be orthogonal. Also, the X variables may have missing values, but there will be a computed score for every case on every X component. Finally, since only a few components (often two or three) will be used in predictions, PLS coefficients may be computed even when there may have been more original X variables than observations (though a greater number of cases is recommended).

In contrast, any of these three conditions (multicollinearity, missing values, and too few cases in relation to variables) may well render traditional OLS regression estimates unreliable (and

estimates by other procedures in the general and generalized linear model families). Partial least squares (PLS) regression/path analysis is thus an alternative to OLS regression, canonical correlation, or covariance based structural equation modelling (SEM) for analysis of systems of independent and response variables. In fact, PLS is sometimes called "component-based SEM," in contrast to the usual covariance-based structural equation modelling. PLS is a predictive technique which can handle many independent variables, even when predictors display multi-collinearity. Like canonical correlation or multivariate GLM, it can also relate the set of independent variables to a set of multiple dependent (response) variables. However, PLS is often criticized as an explanatory technique because it is low in power to filter out variables of minor causal importance (Tobias, 1997: 1).

The advantages of PLS include the ability to model multiple dependent as well as multiple independent variables; the ability to handle multi-collinearity among the independents; robustness in the face of data noise and missing data; and creating independent latents directly on the basis of cross-products involving the response variable(s), making for stronger predictions. Importantly it is less sensitive to distributional abnormality, thus making it a very good option in emerging country Business-to-Business market environments where normal distributions based on large samples are rare (Burgess and Steenkamp, 2006).

The disadvantages of PLS include greater difficulty of interpreting the loadings of the independent latent variables (which are based on cross-product relationships with the response variables and not, as in common factor analysis, based on co-variances among the manifest independents). In addition, because the distributional properties of estimates are not known, the researcher cannot assess significance except through bootstrap induction. Overall,

the mix of advantages and disadvantages means PLS is favoured as a predictive technique and not as an interpretive technique, except for exploratory analysis as a prelude to an interpretive technique such as multiple linear regression or covariance-based structural equation modelling.

Although originally developed by Herman Wold (Wold, 1981, 1985) for econometrics, PLS first gained popularity in chemo-metric research and later found its way into industrial applications. It has since spread to research in education, marketing, and the social sciences. PLS may be implemented as a regression model, predicting one or more dependents from a set of one or more independents; or it can be implemented as a path model, akin to structural equation modelling.

Mediation:

There is a long history in the study of mediation (Hyman, 1955; MacCorquodale & Meehl, 1948) and it is currently a very popular topic. Traditionally referred to a process analysis, a key reason for its use is the desire to understand the mechanism through which an initial variable affects the outcome. Put differently, when most causal or structural models are examined, the mediating part of the model is the most interesting. Hence, mediation is a hypothesized causal chain in which an intervening variable, Z , mediates the relationship between an independent variable, X , an independent variable, and Y , a dependent variable (Figure 1.1). In the mediation process direct and indirect effects may be isolated. In the mediation equation $Y=a+b_1X+b_2Z+e$, mediation is supported if the partial direct effect is non-significantly different from zero and the indirect effect is significantly greater than zero.

Full mediation is present when both indirect effects is non-significantly different from zero, while partial mediation is present if the indirect effects and the direct effect (after controlling for it) remains significant.

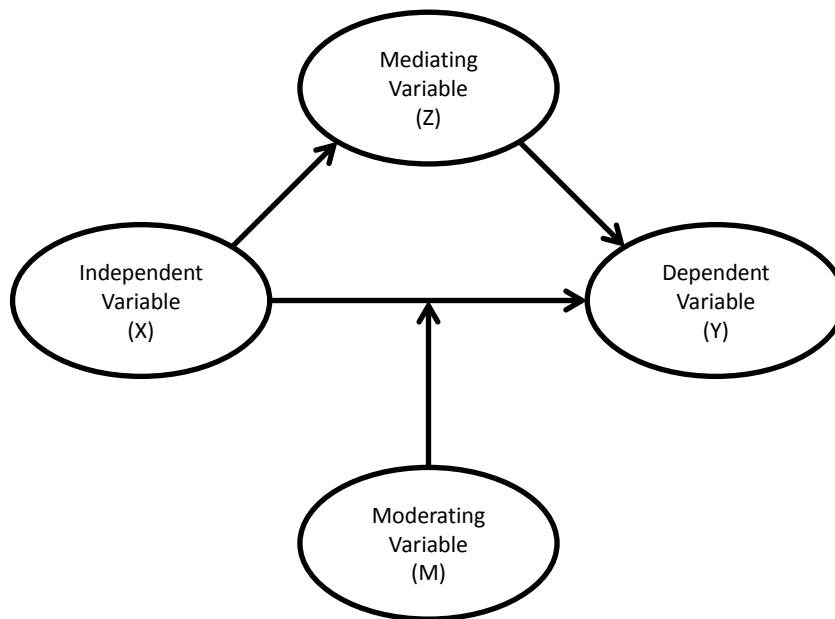


Figure 1.1 Illustration of Mediation and Moderation effects

Moderation:

In a linear causal relationship in which the variable X is presumed to cause the variable Y, a moderator variable M is a variable that alters the strength of the causal relationship. Most moderator analysis measure the causal relationship between X and Y by using a regression coefficient. Although classically, moderation implies a weakening of a causal effect, a moderator can amplify or even reverse that effect. Complete moderation would occur in the case in which the causal effect of X on Y would go to zero when M took on a particular value (Kraemer et al. 2001; 2002; Frazier et al. 2004). A moderator analysis is an exercise of

external validity in that the question arises as to how universal the causal effect is. A key part of moderation is the measurement of X to Y causal relationship for different values of M. The effect of X on Y for a given value of M is referred to as the simple effect X on Y. If X is a randomized variable, there are fewer causal ambiguities. Much of what is done in moderation is based on this presumption. Uncertainties arise when X is not randomized. If X is not manipulated, then the direction of causation must be assumed. As shown in Judd and Kenny (2010), it is even possible that the moderator effect can reverse if the direction of causation is flipped (presuming that Y causes X instead of vice versa). Therefore (importantly), in a moderator analysis, if X is not manipulated, the researcher needs to justify the choice of causal direction. Also, ideally the moderator should be measured prior to variable X being measured. So if X is manipulated, then M should be measured prior to X being manipulated. Of course, if M is a variable that does not change (e.g., race), the timing of its measurement is less problematic. It is possible, and quite complicated, but M can be both a mediator and a moderator.

If X is a manipulated variable, in principal, there should be no relationship between X and M. If X is not randomized, it might be correlated with M. Unlike mediation, there is no need for X and M to be correlated and that correlation have no special interpretation. However, if X and M are too highly correlated, there can be estimation problems. Generally, moderator effects are indicated by the interaction of X and M in explaining Y. The following multiple regression equation is estimated: $Y = d + aX + bM + cXM + E$. The interaction of X and M or coefficient c measures the moderation effect. Note that in the equation above the path is a simple measure of the effect of X when M equals zero. Finding that c is statistically significant does not prove moderator effects. Here the researcher needs to consider issues of

non-additivity and/or the case where the actual moderator may not be the moderator but some other variable with which the moderator correlates.

Reflective versus formative measures

As a result of the growing usage of scale development and multi-item measures in marketing research the issue of using reflective versus formative indicators (figure 1.2) enjoys considerable research attention. According to Diamantopoulos and Winklhofer (2001) The distinction between formative and reflective measures is important because proper specification of a measurement model is necessary to assign meaningful relationships in the structural model.

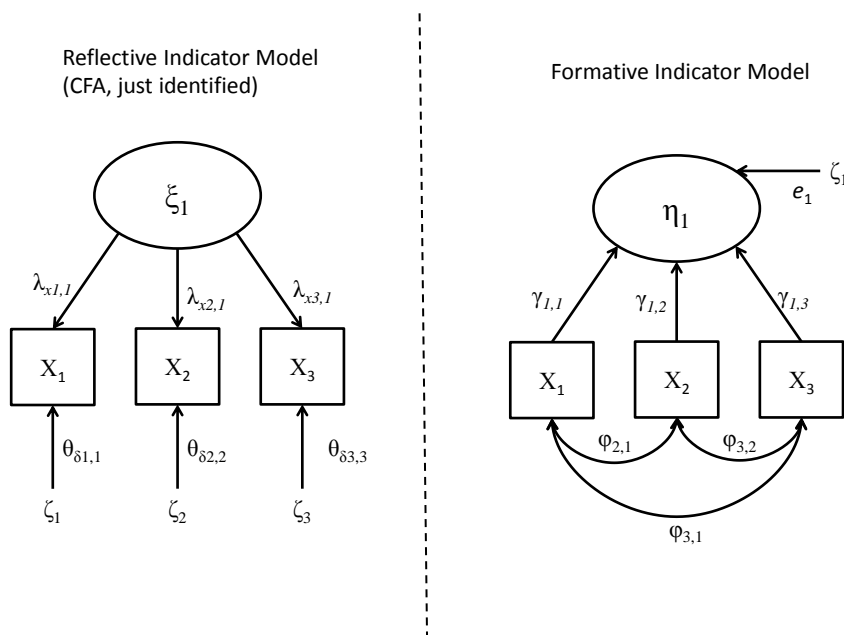


Figure 1.2 Illustration of reflective and formative models

Source: Adapted from Hair et al. (2006)

Existing measure development guidelines focus almost exclusively on scale development, where items (i.e., observed variables) composing a scale are perceived as reflective (effect) indicators of an underlying construct (i.e., latent variable). Thus, according to prevailing convention, indicators are seen as functions of the latent variable, whereby changes in the latent variable are reflected (i.e. manifested) in changes in the observable indicators (Diamantopoulos and Siguaw, 2006). However, in many cases, indicators could be viewed as causing rather than being caused by the latent variable measured by the indicators. In these instances, the indicators are known as formative (or causal); it is changes in the indicators that determine changes in the value of the latent variable rather than the other way around. Despite recent endorsements of formative measurement (Diamantopoulos, 2008; Jarvis et al., 2003; Podsakoff et al., 2003), other researchers have begun to question the validity of formative measurement in general (Bagozzi, 2007). In fact, some researchers have suggested that whenever possible, reflective, rather than formative indicators should be used (Bagozzi, 2007; Howell et al., 2007b). This is because formative indicators' weights are dependent on the particular outcome variable used to estimate them. As a consequence, the meaning of formatively measured constructs can change substantially from study to study, potentially hindering scientific progress (Howell et al., 2007a).. For these reasons this research program adopted reflective measures across all four studies.

1.5 Conclusion

According to Biggeman (2011) there is a need for more research that accounts for when suppliers of emerging countries enter the arena where firms operates in large networks to create direct and indirect relationships. At the same time it is acknowledged that business marketing is not only about relationships and networks, but also about finding solutions to

business problems that deliver value to customers and ultimately consumers. Nevertheless in the global business context the likelihood of an emerging country firm being a supplier or buyer in such a network is very strong. Thus, research in the area of business marketing that involves emerging market firms is becoming increasingly relevant. It is therefore imperative that an understanding of business marketing from an emerging market perspective is considered to fill this void in the literature. Hence, the four studies as presented in the following chapters seeks to achieve such a contribution.

University of Cape Town

Chapter 2: Relationship and Innovation Orientation in a Business-to-Business Context

2.1 Introduction

Since Miles and Snow (1978) introduced their typology of four strategic orientations, various alternative approaches to strategic orientation (including market orientation, product orientation, customer orientation, innovation orientation, relationship orientation, stakeholder orientation and interaction orientation) have emerged. Many authors (table 2.1) employ the idea of strategic orientation to describe the overall dominant logic that represents a firm's competitive posture based on its conceptualisation of the internal and external situation and/or environment.

Table 2.1: Illustrative list of key contributions to Strategic Orientation literature

<i>Author(s)</i>	<i>Year</i>	<i>Main focus</i>
Day and Wensley	1983	<i>Marketing Theory and Strategic Orientation</i>
Robinson JR. and Pearce II	1988	<i>Patterns of Strategic Behavior and their impact on SBU performance</i>
McKee, Varadarajan, and Pride	1989	<i>Strategic Adaptability and Firm Performance</i>
Venkatraman	1989	<i>Strategic Orientation - Dimensionality and Measurement</i>
Doyle and Hooley	1992	<i>Strategic Orientation and Corporate Performance</i>
Golden, Johnson and Smith	1995	<i>Strategic Orientation of Russian Firms</i>
Wright, <i>et al.</i>	1995	<i>Strategic Orientations, Competitive Advantage, and Business Performance</i>
Manu and Sriram	1996	<i>Innovation, Marketing Strategy, Environment, and Performance</i>
Deshpandé, Farley and Webster.	1997	<i>Factors Affecting Organizational Performance</i>
Gatignon and Xuereb	1997	<i>Strategic Orientation and New Product Performance</i>
Rajagopalan, N.	1997	<i>Strategic Orientations and Firm Performance of Electronic Utility Firms</i>
Morgan and Strong	1998	<i>Market Orientation and Dimensions of Strategic Orientation</i>
Deshpandé and Farley	2000	<i>Generalizing results linked to strategic orientation</i>
Voss and Voss	2000	<i>Strategic Orientation and Firm Performance</i>
Luo and Park	2001	<i>Strategic Alignment and Performance of Market-seeking MNCs in China</i>
Noble, Sinha, and Kumar	2002	<i>Market Orientation and Alternative Strategic Orientations - Performance Implications</i>
Camelo-Ordaz, Martin-Alcazar and Valle-Cabrera	2003	<i>Intangible Resources and Strategic Orientation in Spain</i>
Morgan and Strong	2003	<i>Business Performance and Dimensions of Strategic Orientation</i>
Deshpandé and Farley	2004	<i>Organizational Culture, Market Orientation, Innovativeness, and Firm Performance</i>
Strandholm, Kumar, and Subramanian	2004	<i>Interrelationships among Strategic Response and Performance</i>
Santos-Vijande, <i>et al.</i>	2005	<i>Market Orientation and Business Strategic Behaviour</i>
Gao, Zhou and Yim	2007	<i>Contingent value of strategic orientations in China</i>
Leskovar-Spacapan and Bastic	2007	<i>Innovation in transition economies - aspects of strategic orientation</i>
Moses	2007	<i>Managerial social capital, strategic orientation, and organizational performance in an emerging economy</i>
Laforet	2008	<i>Size, strategic, and market orientation affects on innovation</i>
Pleshko and Nickerson	2008	<i>Strategic orientation and effects on performance in industrial firms</i>

Although it appears conceivable that a firm might adopt multiple strategic orientations, the idea of market orientation (Kohli and Jaworski, 1990; Narver and Slater, 1990) seems to have

attracted the majority of the attention in marketing literature. In particular, many of the studies cited above demonstrate the positive relationship between market orientation and firm performance.

This chapter¹ seeks to contribute to the literature by considering innovation and relationship orientation simultaneously, and to test their relationship with firm performance. Therefore it demonstrates the importance of relationships in emerging Business-to-Business markets. In particular, the chapter builds on the approach followed by Berthon *et al.* (2004) in its inclusion of innovation orientation, but substitutes market orientation with a measure for relationship orientation as suggested by Sin *et al.* (2005b). First, the chapter offers literature support for the relationship between innovation orientation and firm performance, as well as the link between relationship orientation and performance. This approach assists in the identification of the constructs to be included in the study and facilitates the motivation for considering innovation and relationship orientation simultaneously. This theorisation resulted in the formulation of nine hypotheses. Next, the methodology for this research is discussed followed by the results of a survey conducted amongst 181 Business-to-Business managers in a South African context. The chapter concludes with managerial implications and suggestions for further research.

2.2 Literature review

Both innovation and relationship orientation receive considerable attention in management literature, and when considered separately, both concepts are demonstrated to have positive implications for business performance. While innovation orientation builds on a philosophy

¹ The use of "Chapter" refers to the corresponding published paper in chapters 2 through 5 of this thesis.

(Berthon, Hulbert and Pitt, 2004) suggesting that customers will prefer superior and innovative products and services, relationship orientation builds on the philosophical grounding of market orientation that suggests understanding customer needs is the key to customers' satisfaction and firm performance. The relationship between innovation and market orientation has been the focus of many studies (Atuahene-Gima, 1996; Berthon *et al.*, 2004; Deshpandé, Farley and Bowman, 2004; Deshpandé, Farley and Webster, 1993; Zhou *et al.*, 2005a; Zhou, Yim, and Tse, 2005b), but the relationship between innovation orientation and relationship orientation seems to have received less research attention. Yet, both scholarly and popular opinion often emphasizes the importance of both these strategic orientations. Consequently, practitioners may receive mixed and varied messages as to which orientation might serve them best and how they might employ both approaches to enhance business performance. This section reviews the literature on relationship orientation that supports its operationalization as a multi-factor construct and the subsequent development of a measure for it. The review then turn to innovation orientation by focusing particularly on the literature that demonstrates its relation with market orientation (as a proxy for relationship orientation), as well as its relation to firm performance.

2.2.1 Relationship Orientation

Relationship orientation was developed from the platform provided by the earlier work on market orientation because the philosophy of business has shifted from a production orientation to a selling orientation, then to a marketing orientation, and finally to a relationship orientation (Grönroos, 1989; Terblanche, 2005; Gruen, 1995). According to Sin *et al.* (2005b), relationship orientation received contributions from the literature in service marketing, sales (selling) management, marketing channels, interaction and networks, and the

guanxi literature in China. Various studies in the field of marketing have each referred to the term relationship orientation or relationship marketing orientation from a different theoretical viewpoint, unit of analysis, and with alternative construct definitions. Three approaches seem to emerge. The first appears to focus on the building blocks of a relationship and conceptualises relationship orientation at a “dyadic level by putting the buyer-seller relationship at the centre of the firm’s strategic or operational thinking” (Sin *et al.* 2005b:186). This approach postulates that relationship orientation is a multi-dimensional construct consisting of six components, including: trust, bonding, communication, shared value, empathy and reciprocity. A second approach focuses on a culturally embedded model of relationship orientation and draws heavily on the organisational culture literature to examine four components of culture: values, behaviours, artifacts, and assumptions (Winklhofer, Pressey and Tzokas, 2006). A final approach conceptualizes relationship orientation as a higher-order construct which may be indicated by four types of relationship marketing investments: communication, customization, personalization (preferential treatment) and personal relationships (Camarero, 2007). Marketing literature (Morgan and Hunt, 1994, and Palmatier, 2008) seems support the first approach and, in addition, it also overlaps with the conceptualization by Camarero (2007). Therefore the approach by Sin *et al.* (2005b) who and argues that relationship orientation is a multi-dimensional construct consisting of six components as indicated above is adopted. Sin *et al.* (2005b) confirmed the reliability and validity of a scale to measure each latent variable and refer to it as the RMO scale. To simplify things this chapter will refer to it as relationship orientation (RO) and in the following section a brief consideration of each component of RO is offered.

2.2.1.1 Trust

Trust remains a key component of business relationships in both consumer and business markets (Palmatier, Dant and Grewal, 2007; Palmatier *et al.*, 2008). It is conceptualized as that component of a business relationship that determines the level to which each party feels they can rely on the integrity of the promise offered by the other party. This mutual trust is theorized (Sin *et al.*, 2005b) to enhance the probability of continued long-term relationships between the parties. In the Business-to-Business marketing literature trust is often referred to as an element in personal, inter-organizational and intra-organizational relationships (Fill and Fill, 2005). Trust (inter-organizational) involves credibility (the extent to which one organization believes that another organization will undertake and complete its agreed roles and tasks) and benevolence (that the other organization will not act opportunistically, even if the conditions for exploitation are favourable). Hence, the quality of the business relationship is linked to the level of trust between the parties. Notably, commitment appears absent from the Sin *et al.* (2005b) conceptualization. Many authors (Morgan and Hunt, 1994; Palmatier, 2008, and Theron, Terblanche and Boshoff, 2008) emphasize the importance of commitment – in the same breath with trust – as a key factor in relational quality. By contrast, Sin *et al.* (2005b) favour bonding in their conceptualization of relationship orientation, thus qualifying the conceptualization of trust only.

2.2.1.2 Bonding

Social bonding refers to the tie that keeps buyer and seller together in a personal sense, and encompasses personal interactivity and feelings of personal closeness (Stanko, Bonner and Calantone, 2007). A long-term buyer-seller relationship requires bonding because stronger personal bonds between buyers and sellers lead to a greater commitment to maintain the

relationship (Sin *et al.*, 2005b). Bonding is defined as that component of a business relationship that results in buyers and sellers acting together to attain a common goal. Hence, this conceptualization appears consistent with that of commitment mentioned above.

2.2.1.3 *Communication*

According to Sin *et al.* (2005b), communication can be defined as the formal, as well as informal, exchanging and sharing of meaningful and timely information between buyers and sellers. This is regarded as a crucial component for the formation of cooperation and trust in a business relationship. For example, Morgan and Hunt (1994) showed that communication has a positive and indirect impact on buyer-supplier relationship commitment, while in another South African study Theron *et al.* (2008) observed a similar relationship between communication and relationship commitment.

2.2.1.4 *Shared value*

Shared value is defined as the extent to which partners have common beliefs about what behaviours, goals and policies are important, appropriate and right. It is believed to increase commitment in business relationships (Morgan and Hunt, 1994) and is, therefore, very important. Moreover, Lai (2009) noted that in a relationship that features a high intensity of shared values there appears to be the desire by both parties to maintain the continuity of the relationship. Moreover, in situations of total interdependence, shared norms and values exert a moderating effect on the strategies that are adopted and buyers comply with sellers' requests and adopt less-opportunistic behaviours.

2.2.1.5 Empathy

Empathy is considered a necessary condition for fostering a positive relationship between two parties. According to Wang (2007), it refers to the ability to see a situation from another person's perspective. The greater the degree of empathy, the less problematic are the barriers to developing a relationship. Sin *et al.* (2005b) motivate for its inclusion in their conceptualization of relationship marketing orientation from both the service marketing and the network literature. Empathy is defined (Sin *et al.* 2005b) as seeking to understand the desires and goals of somebody else – alternatively, those of a client. In addition, results from a study by Klemz, Boshoff and Mazibuko (2006) show that small, local and independently-owned retailers focus extensively on empathy to influence willingness to buy. Thus, emphasizing the importance of empathy in a South African business relationship context.

2.2.1.6 Reciprocity

According to Sin *et al.* (2005b), reciprocity is that component of a business relationship that causes either party to provide favours or make allowances at a later date. This notion is well-supported (Palmatier, 2007; Ramani and Kumar, 2008) and is often referred to as relationship-specific investments. Wang (2007) also noted cultural differences in how reciprocity is perceived and compared Chinese to Western approaches. It is argued that Western societies emphasize short-term, symmetrical reciprocation in a balanced exchange relationship, whereas in Chinese culture the “return in kind” can be on a longer-term and be asymmetrical with the expectation that the relationship will last into the unforeseeable future. This serves as an alert to the measurement of reciprocity, and supports its careful consideration in an African context.

Based on these considerations, the current study uses the RMO Scale (Sin *et al.*, 2005b) to gauge relationship orientation (RO) and tested its internal reliability and construct validity in a South African context. Furthermore, the demonstrated positive relation between market orientation and firm performance (Au and Tse, 1995; Deshpandé, *et al.*, 2004; Doyle and Hooley, 1992; Morgan and Strong, 2003; Rajagopalan, 1997; Tse *et al.*, 2003; Venkatraman, 1989) and the adopted position that relationship orientation largely evolved out of market orientation, renders it conceivable that such a relationship between relationship orientation and firm performance can be supported. In fact, the specific linkage between relationship orientation and firm performance has been shown (Cayanus and Both-Butterfield, 2004; Hedaa and Ritter, 2005; Lai *et al.*, 2009; Palmatier *et al.*, 2008; Sin *et al.*, 2002; Sin *et al.*, 2005a; Strandholm *et al.*, 2004; Taylor *et al.*, 2008). Based on these findings, this study start by confirming this relationship between relationship orientation and firm performance in a South African context it is hypothesized that:

H1: *Relationship orientation (RO) has a positive relationship with firm performance.*

2.2.2 Innovation Orientation

Market orientation leads to incremental and trivial new product developments, and this is argued (Bennett and Cooper, 1981) to be the rationale for innovation (innovation orientation) that has the potential to create markets and customers. Similarly, Dickson (2000) claims that consumption does not lead to production, as suggested by market orientation, providing even further motivation for firms to be innovative. Innovation orientation received more attention as the need for growth in increasingly competitive environments became dire and demand alone could no longer be relied on to provide opportunity for growth. According to Siguaw, Simpson and Enz (2006), the term innovation orientation has been frequently used in the

innovation literature with mixed conceptualizations and meanings. Innovation orientation is defined (Siguaw *et al.*, 2006) as the knowledge structure composed of a learning philosophy, strategic direction, and trans-functional beliefs within an organization that direct the organizational strategies and actions toward specific innovation-enabling competencies and processes. In addition, a number of studies (Capon, Farley and Hoenig, 1990; Deshpandé *et al.*, 1993; Deshpandé *et al.*, 1997; Manu, 1992; Manu and Sriram, 1996; Simpson, Sigauaw and Enz, 2006; Zhou *et al.*, 2005a; Zhou *et al.*, 2005b) have positively linked innovation to business performance. By contrast Simpson *et al.* (2006) also argues that progress in identifying outcomes of an innovation orientation has likely been hindered by three key obstacles: (a) a predominant reliance on a few, positive outcome measures, (b) a concentration on inputs, and (c) a bias toward positive results. While this contribution is important, a broader understanding of innovation effects is crucial and Simpson *et al.* (2006) concedes that a micro-level focus generally ignores effects of an innovation orientation on a firm's sustained financial performance. Therefore, in the South African context it is hypothesized that:

H2: *Innovation orientation (IO) has a positive relationship with firm performance.*

2.2.3 Combining Relationship and Innovation Orientation

Beyond the direct relationship between innovation orientation and firm performance, research (Chen, Lin and Chang, 2009; Cohen, 2008; Deshpandé and Farley, 2004; Deshpandé, Farley and Webster, 1992; Eiadat, *et al.* 2008; Hooley and Greenley, 2005; Hooley *et al.*, 2000; Hooley *et al.*, 2001; Theoharakis and Hooley, 2008; Zhou, Brown and Dev, 2009) has also suggested that innovation orientation mediates the relationship between market orientation and firm performance. This research suggests that innovative firms may employ new

technologies and processes to enhance their marketing effectiveness. If it is then assumed that relationship orientation builds primarily on the idea of market orientation, it can be argued that innovation orientation should also mediate the relationship between a relationship orientation and firm performance. Moreover, it can be inferred that innovation orientation mediates the relationship between trust, bonding, communication, shared values, empathy, reciprocity and firm performance. Therefore, it is hypothesized that the relationship between each of the components of relationship orientation and firm performance is mediated by innovation orientation as follows:

H3: *Innovation orientation mediates the relationship between trust and firm performance.*

H4: *Innovation orientation mediates the relationship between bonding and firm performance.*

H5: *Innovation orientation mediates the relationship between communication and firm performance.*

H6: *Innovation orientation mediates the relationship between shared values and firm performance.*

H7: *Innovation orientation mediates the relationship between empathy and firm performance.*

H8: *Innovation orientation mediates the relationship between reciprocity and firm performance.*

According to Berthon *et al.* (2004), empirical evidence suggests that both innovation and market orientation have significant effects on corporate performance, and they noted that innovation orientation cannot be reduced to market orientation, or vice versa. Furthermore, it is argued that if market orientation and innovation orientation are independent, but potentially interacting constructs, then it is useful to integrate them. This leads the authors (Berthon *et al.*

2004) to construct a typology based on a two by two matrix (figure 2.1) of market orientation and innovation orientation, yielding four archetypes.

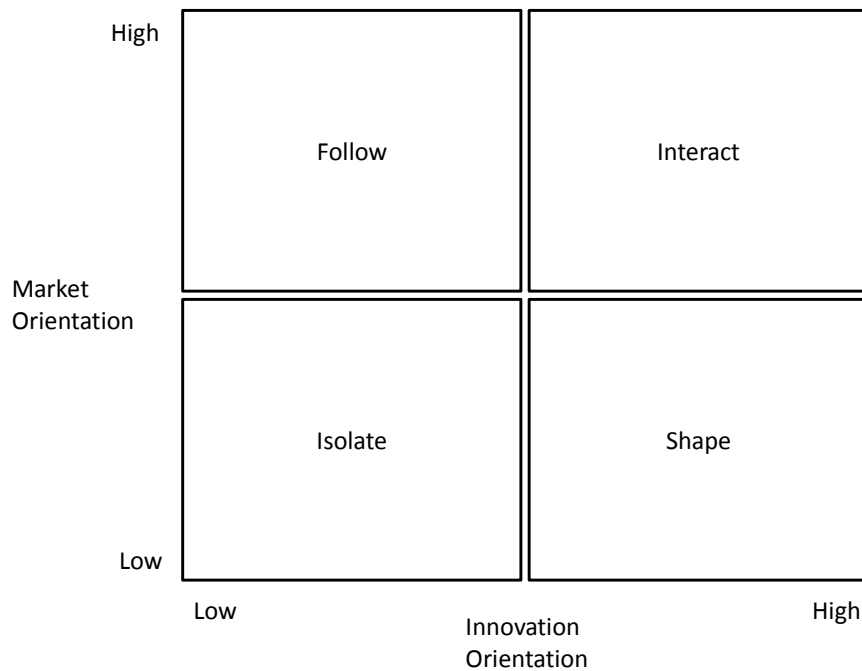


Figure 2:1: Strategic Orientation Archetypes by Berthon et al., (2004:1070).

The firms in the archetype labelled *Isolate* score low on both market and innovation orientation and are argued to exhibit little or no interaction between their innovation efforts and the target market, and tend to become the focus of their own attention – aptly described as “organocentric”. These firms are typically obsessively concerned with internal efficiency and short-term profits. Firms in the *Follow* archetype score low on innovation and high on market orientation, indicating that these firms allow markets to drive innovation. They rely heavily on both formal and informal market research into products/services to propel their development. In the case of a *Shape* archetype, firms score high on innovation orientation and

low on market orientation, implying that innovation shapes the market. These firms are primarily technology-oriented and their strategy is based on the principle that in certain circumstances innovation defines customer demand through providing new products or services. Finally, the *Interact* archetype contains firms that score high on both market and innovation orientations. Here a true “dialogue” (Berthon *et al.*, 2004:1070) is established between the market and the firm’s innovations. It implies that innovations are continuously tested against market needs, and are being used to create markets.

The Berthon *et al.* (1999) approach is supported and also extended to relationship orientation. It is theorized that the Berthon *et al.* (1999) typology may be useful for integrating relationship orientation and innovation orientation in a similar manner. Because firms in the *Isolate* archetype are internally focused (organocentric), their relationship orientation is low. Similarly, because of the significant market (external) focus in the *Follow* archetype, relational issues dominate as these firms tend to allow customers to drive innovation in order to maintain good business relationships. In the *Shape* archetype the situation found in followers is just reversed as firms concentrate on innovation with less focus on relationships. In the *Interact* archetype, firms score high on both relationship and innovation orientations, and the interaction between both these orientations are frequent and intense. In this approach, market orientation is extended to relationship orientation (figure 2.2) and it is hypothesized that:

H9: *There is a significant difference in firm performance between the strategic archetypes as defined by relationship orientation and innovation orientation.*

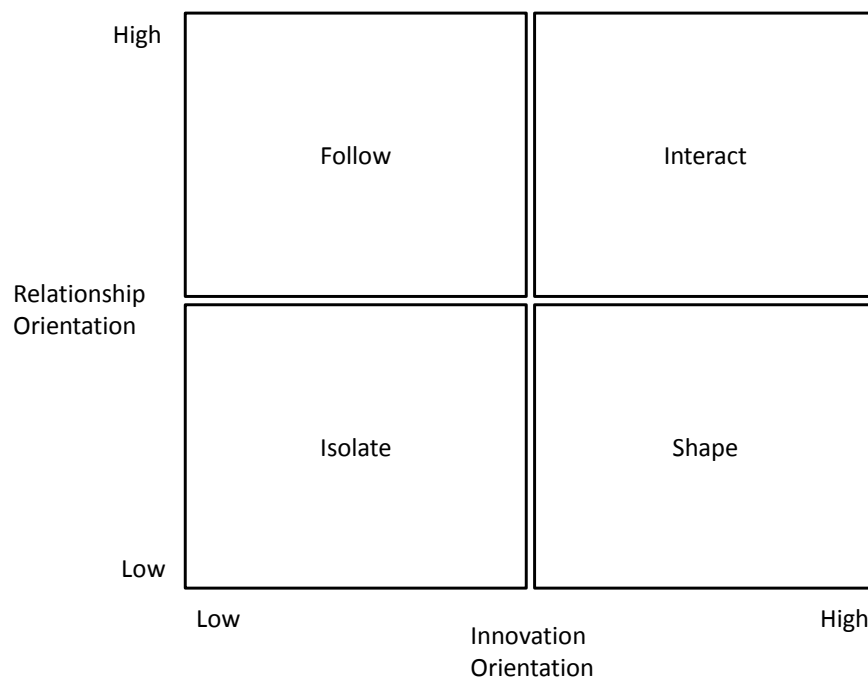


Figure 2.2: Relationship-adjusted Strategic Orientation Archetypes

Source: Adapted from Berthon et al. (2004:1070)

2.3 Method

The context for this research is the South African Business-to-Business environment, and the sample frame was defined as managers who operate primarily in a Business-to-Business environment, and who are involved in maintaining and/or creating relationships with suppliers and/or buyers. This meant that the respondents may represent firms that can either be involved in purely business markets or a mixture of business and consumer markets. Typically, in the case of consumer market activities, the respondent will be involved in supplier relations, such as in the case of a purchasing manager. A non-probability convenience sampling method, based on a commercial database of the researcher, was used to collect data from 250 firms in the metropolitan areas of Cape Town, Durban and

Johannesburg. A multi-respondent method was employed because preliminary interviews revealed that respondent's opinion regarding relationships often varies within a single firm. The data were collected via a structured questionnaire (summarized in Appendix A) that contained a reduced version (seven items) of the ICON scale proposed by Berthon *et al.* (2004) to measure innovation orientation, and the 22-item relationship orientation scale suggested by Sin *et al.* (2005b). It also included a 4-item firm performance scale containing perceptual measures for sales growth, customer retention, return on investment and market share as suggested by prevailing literature (Dess and Robinson Jr., 1984; Hart and Banbury, 1994; Naman and Slevin, 1993; Palmatier *et al.*, 2007, Venkatraman and Ramanujam, 1987). Finally, the questionnaire contained some demographic questions relating to both respondents and the firms they represent. All three scales were subjected to reliability analysis (Cronbach, 1951) and validity analysis using confirmatory factor analysis (CFA) in structural equation modelling (Jöreskog and Sörbom, 1999b). Once the reliability and validity of the scale were confirmed, the hypotheses as indicated in table 1.2 could be tested.

Table 2.2: Research hypothesis and corresponding method of analysis

Hypothesis	Analysis
H1: <i>Relationship orientation (RO) has a significant positive relationship with firm performance.</i>	SEM*
H2: <i>Innovation orientation (IO) has a significant positive relationship with firm performance.</i>	SEM
H3: <i>An innovation orientation mediates the relationship between trust and firm performance.</i>	PLS**
H4: <i>An innovation orientation mediates the relationship between bonding and firm performance.</i>	PLS
H5: <i>An innovation orientation mediates the relationship between communication and firm performance.</i>	PLS
H6: <i>An innovation orientation mediates the relationship between shared value and firm performance.</i>	PLS
H7: <i>An innovation orientation mediates the relationship between empathy and firm performance.</i>	PLS
H8: <i>An innovation orientation mediates the relationship between reciprocity and firm performance.</i>	PLS
H9: <i>There is a significant difference in firm performance between the strategic archetypes as defined by relationship orientation and innovation orientation.</i>	ANOVA***

*SEM = Structural Equation Modelling (Jöreskog and Sörbom, 1999a)

**PLS = Partial Least Squares (Ringle *et al.*, 2005)

*** ANOVA = Analysis of Variance (Palant, 2007)

2.4 Results

Of the 250 questionnaires distributed to respondents, only 181 (72.4%) were regarded as suitable for analysis. Table 2.3 summarises the descriptive statistics of the sample. The Cronbach's alpha coefficient, a mean reliability coefficient calculated from all possible split-half partitions of the measurement scale, was employed to consider internal reliability of each scale. The overall reliability for all three scales was satisfactory ($\alpha > 0.7$) and these are reported in table 2.4.

Table 2.3: Summary of key descriptive statistics

N	181
% Respondents from locally owned firms	64%
% of sales generated from South African Markets	98%
<i>Major Standard Industrial Classification (SIC) categories:</i>	
Wholesale Trade	34%
Financial Services – (Intermediation)	50%
Manufacturing	4%
Transportation	6%
Other (6 categories)	6%
<i>Managerial position of respondents:</i>	
Top management	11%
Middle Management	33%
1 st tier management	42%
<i>Functional deployment:</i>	
Marketing and Sales Management	45%
Financial Management	14%
Operational Management	11%
<i>Firm size by number of employees:</i>	
% < 300	45%
% > 5000	31%
Average respondent age (years)	31-40
% Male respondents	48%
% Female respondents	52%

In the relationship orientation scale, one dimension (communication) appeared not to be reliable in a South African context, and this raised reason to consider the elimination of this dimension.

Table 2.4: Reliability analysis

	Latent Variables	Cronbach Alpha
Innovation Orientation (7 items)		0.729
Relationship Orientation (22 items)	β	0.891
	Trust	0.703
	Bonding	0.763
	Communication	0.644
	Shared Value	0.864
	Empathy	0.791
	Reciprocity	0.662
Firm Performance (4 items)		0.780

Construct validity was considered through the use of confirmatory factor analysis in structural equation modelling (SEM). According to Hair *et al.*, (2006), structural equation modelling tests the extent to which the researcher's *a priori* pattern is represented in the data and allows the researcher the opportunity to consider multiple observed variables. Structural equation modelling explicitly takes measurement error into account and gives greater recognition to measurement constructs. Table 2.5 reports the summarised CFA results for each scale while appendix A also report the means, standard deviations and correlation matrix for each scale.

Table 2.5: Confirmatory Factor Analysis

Scale	χ^2	df	RMSEA*	ρ	GFI**	NFI***
Innovation Orientation (IO)	25.46	14	0.067	0.030	0.964	0.904
Relationship Orientation (RO)	611.68	206	0.105	0.000	0.828	0.781
Firm Performance (Perf)	3.16	2	0.057	0.205	0.991	0.985

* Root Mean Square Error of Approximation

** Goodness of Fit Index

*** Normed Fit Index

From table 2.5 it is evident that the data do not fit (RMSEA > 0.08, GFI and NFI < 0.9) the theorized model proposed by the relationship orientation scale. In accordance with the literature (Bagozzi, 1981; Bentler *et al.*, 2001; Hair *et al.*, 2006), the relationship orientation

data were subjected to exploratory factor analysis to reconsider the underlying variable structure. This analysis suggested that only four factors – as opposed to six in Sin *et al.*'s (2004) article – could be described on the basis of this measurement. Most items loaded as expected, but some items cross-loaded, while others exhibited weak (<0.3) loadings. The result of this analysis was a revised 16-item (see appendix A) scale of relationship orientation based on four latent variables labelled: Sharing (six items), Bonding (four items), Trust (three items) and Reciprocity (three items). The CFA for the revised RO scale yielded a weak but acceptable fit ($\chi^2=254.54$, $df=100$, $p=0.000$, $RMSEA=0.09$) and it was decided to continue testing the hypothesized relationships based on this measurement. This decision was based on the marginal difference (0.09 versus the recommended 0.08 by Hair *et al.*, 2006) and the relative strong goodness of fit statistics ($GFI = 0.850$ & $NFI = 0.815$) that the model exhibited. Moreover, some authors (Burgess 2003b; Khanna *et al.*, 2005; Klemz *et al.*, 2005; and Wright *et al.*, 2005) question the usefulness of criteria that were confirmed in developed markets under relative stable and homogenous conditions. In this regard, it is noted the critical ratio (C.R) values for the Innovation Orientation, Relationship Orientation and Firm Performance scales all exceeded the 1.96 threshold (Byrne, 2010) which suggests that the null hypothesis may be rejected. Closer inspection of non-centrality parameters (NCP) as well as the minimum discrepancy function (FMIN) all fall within the required interval values and suggest that the null hypothesis may be accepted with 90% confidence. Byrne (2010) cautions that confidence intervals are influenced by sample size, and also proceeds to comment on issues pertaining to the use of significance in SEM. In this regard it is noted that significance remains an area of much debate in SEM and it appears that the issue remains largely unresolved. Nevertheless, the apparent weakness of the model fit for Relationship Orientation (specifically) is acknowledged. As a result of the refinement of the RO scale, H5

and H7 had to be excluded from the analysis. In addition, H4 now reflects the hypothesized relationship for the construct labelled “sharing” as follows:

H4: *An innovation orientation mediates the relationship between sharing and firm performance.*

To test H1 and H2, the relationship between IO and firm performance (Perf), and that between RO and Perf, was first tested separately and then simultaneously in a structural model. Table 2.6 shows the independent tests while figure 2.3 shows the result of the structural model when considering both constructs simultaneously.

Table 2.6: Independent tests of relationship between IO, RO and firm performance

Relationship	χ^2	df	RMSEA*	ρ	GFI**	NFI***
IO→Perf	90.42	43	0.78	0.000	0.922	0.939
RO→Perf	32.22	19	0.06	0.029	0.941	0.979

* *Root Mean Square Error of Approximation*

** *Goodness of Fit Index*

*** *Normed Fit Index*

Considering the relationship between IO and RO with firm performance simultaneously (figure 2.3) yielded an acceptable (but weaker) fit ($\chi^2=52.37$, $df=24$, $p=0.000$, $RMSEA=0.08$). Both these analyses confirm that there is a significant positive relationship between innovation orientation and firm performance, as well as between relationship orientation and firm performance, thus that H1 and H2 are supported. At the same time it is noted the p-value do not exceed the 0.5 criteria (Byrne, 2010) and therefore in terms of the significance of model fit the same challenges that were mentioned above in the CFA discussion is applicable here.

Because the primary objective was to consider the relationship of RO and IO with firm performance Partial least squares (PLS) was employed to test the mediating effect of innovation orientation on relationship orientation by using the SmartPLS (Ringle, Wende and Will, 2005) software. The advantages of PLS include the ability to model multiple dependents, as well as multiple independents; the ability to handle multi-collinearity among the independents; robustness in the face of data noise and missing data; and the creation of independent latent variables directly on the basis of cross-products involving the response variable(s), making for stronger predictions. Disadvantages of PLS include greater difficulty in interpreting the loadings of the independent latent variables (which are based on cross-product relations with the response variables, instead of, as in common factor analysis, on covariances among the manifest independents), and because the distributional properties of estimates are not known, the researcher cannot assess significance except through bootstrap induction (Fornell and Bookstein, 1982; Fornell and Cha, 1994). Table 2.7 reports the results from this analysis.

The structural model (figure 2.3) exhibit good convergent validity as all the hypothesised paths yield t-value greater than 1.96 (N=181). Table 2.7 also reports other reliability and validity measure.

Table 2.7 Reliability and Validity of the structural model

	Cronbachs Alpha (α)	Composite Reliability	AVE	R Square
Innovation Orientation(IO)	0.745	0.820	0.402	-
Relationship Orientation(RO)	0.694	0.804	0.512	-
Firm Performance (FP)	0.791	0.862	0.610	0.223

<i>Latent Variable Correlations:</i>			
	IO	FP	RO
IO	<i>0.634</i>		
FP	0.421	<i>0.781</i>	
RO	0.483	0.390	<i>0.715</i>

Square Root of AVE on diagonal
(Fornell & Larcker, 1981)

The structural model as use in the SmartPLS path analysis procedure exhibit good internal consistency reliability as reported in Table 2.7. While IO and FP exceed the criteria of 0.7 for Cronbach's alpha, RO is only marginally ($\alpha=0.694$) lower than the threshold. In addition all these constructs exhibit composite reliability score of greater than 0.8. The IO construct appears to exhibit limited discriminat validity on the account of an AVE score less than the 0.5 threshold (Fornell and Larcker, 1981) but when compared to the latent variable correlations the square root of the AVE for all constructs exceeds all corresponding row and column correlations. It is therefore concluded that the model sufficient reliability and validity.

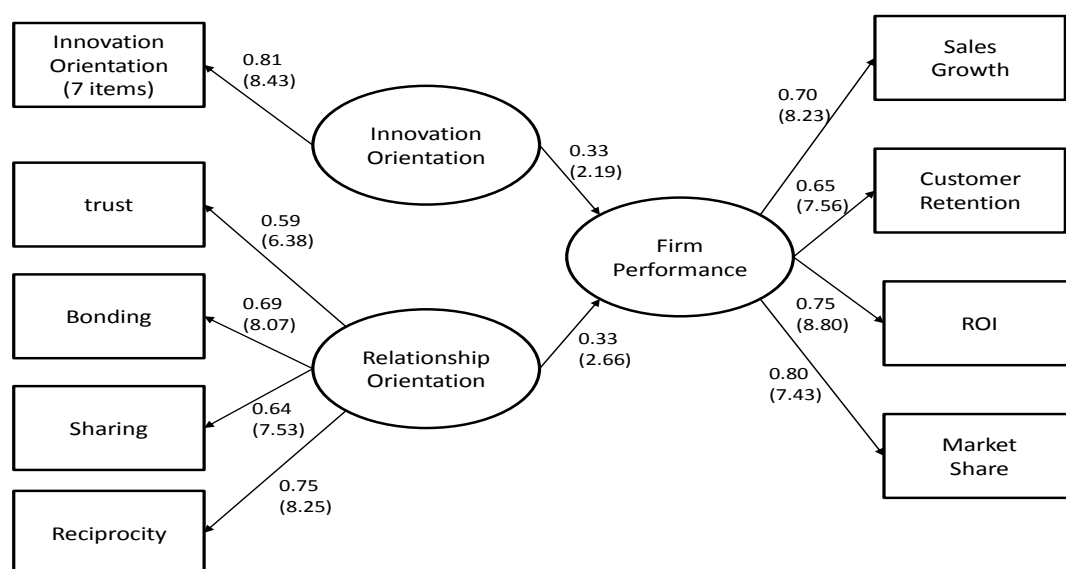


Figure 2.3: Structural Model for Innovation Orientation, Relationship Orientation and Firm Performance. (β -coefficients and t -values in parenthesis)

Consistent with existing Innovation and Market Orientation theory, the results (table 2.8) showed a mediating effect of innovation orientation on the relationship between all four of the relationship orientation measures and perceptual measures of firm performance. In the case of trust and bonding, full mediation is evident, while in the case of sharing and

reciprocity, only partial mediation is observed. These results confirm support for hypotheses 3 to 8 (H3, H4, H6 and H8).

Table 2.8: Test for mediation

	AVE	Composite Reliability	R ²	Cronbach's Alpha	Total Effect		
					β	t-value	
Trust							
IO	0.409	0.821	0.148	0.744	Trust→IO	0.368	5.304
Perf	0.610	0.862	0.161	0.791	IO→Perf	0.416	6.746
Trust	0.766	0.907	-	0.848	Trust→Perf	-0.042	0.439*
Sharing (Share)							
IO	0.402	0.819	0.061	0.744	Share→IO	0.248	2.452
Perf	0.612	0.862	0.202	0.791	IO→Perf	0.370	6.307
Share	0.570	0.887	-	0.851	Share→Perf	0.181	2.444
Bonding (Bond)							
IO	0.410	0.821	0.250	0.744	Bond→IO	0.511	8.757
Perf	0.608	0.860	0.170	0.791	IO→Perf	0.346	5.141
Bond	0.734	0.892	-	0.823	Bond→Perf	0.111	1.436*
Reciprocity (Recip)							
IO	0.405	0.821	0.179	0.744	Recip→IO	0.423	5.899
Perf	0.609	0.861	0.213	0.791	IO→Perf	0.314	4.580
Recip	0.597	0.816	-	0.667	Recip→Perf	0.231	3.041

*Perf = Firm Performance, *= not significant at 95% level, AVE = Average Variance Extracted*

In order to test the final hypothesis that deals with differences between the archetypes suggested by Berthon *et al.* (2004), a median intersection approach was used to categorize respondents according to their overall relationship orientation and innovation orientation scores (as suggested by figure 2.1). In this categorisation the median for each archetype was used to determine which category a respondent will fall into. For example, a case with a Follower value of less than the median for followers and a Shape value of less than those of the median for Shapers, will automatically fall into Isolate category. This process was repeated for all four archetypes and that yielded the final categorisation of all respondents. On the bases of this categorization, performance scores were compared. Tables 2.9 and 2.10 report the results of this analysis.

Table 2.9: Mean performance scores by strategic orientation archetype

	N	%	Sales Growth		Customer Retention		ROI		Market Share		Overall Performance	
			Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
Interact	38	21.0	5.62	3	6.24	1	6.16	1	5.63	1	5.99	1
Follow	36	19.9	6.00	1	5.89	2	5.69	3	5.50	2	5.77	2
Shape	22	12.2	5.59	2	5.45	3	5.91	2	5.32	3	5.66	3
Isolate	85	47.0	5.51	4	5.44	4	5.42	4	5.18	4	5.39	4

From table 2.9 it is noted that the majority (47%) of respondents consider their firms to be in the *Isolate* category which is neither high on relationship orientation, nor on innovation orientation. Furthermore, the best performing firms (as rated by respondents) find themselves in the *Interact* archetype for all the performance measures except sales growth. Inversely, firms rated in the *Isolate* archetype consistently perform the worst across all the performance measures. This observation provides further support for the Berthon *et al.* (2004) scheme and demonstrates its usefulness in a different context. Results of an ANOVA analysis (table 2.10) indicate a significant difference in the performance measures between archetypes, except for Market Share where no significant difference was observed. Hence, H9 is supported.

Table 2.10: ANOVA results (F-statistic) for strategic archetypes

	F	P
Sales Growth	3.488	0.017
Customer retention	9.862	0.000
ROI	7.990	0.000
Market Share	1.861	0.138*
Overall Performance	7.752	0.000

* Not significant at 95% ($p < 0.05$) level

The ANOVA analysis also indicated that the significant differences between “Isolators” and “Interactors” was observed for sales growth ($p=0.025$), customer retention ($p=0.000$) and ROI ($p=0.000$). Moreover, in terms of customer retention, “Interactors” also differ

significantly from “Shapers” ($p=0.000$) and “Followers” ($p=0.010$). Finally, a significant difference for ROI ($p=0.040$) between “Interactors” and “Followers” could also be observed.

2.5 Discussion

Several studies have examined the relationship between strategic orientations and business performance in economies that can be regarded as emerging or transitional, but most of the research in this area remains within developed countries. This leaves the generalizability and boundary conditions of the findings open for interrogation in other contexts. To complicate matters further, Gao *et al.* (2007) suggest that the effects of strategic orientation may be robust in relatively homogenous contexts of developed countries, but a more dynamic context is needed to examine these in developing market contexts. This study have attempted to test the relationship between strategic orientations in a context different from what they were conceived in. While the adjusted measure used for measuring innovation orientation exhibits good reliability and validity, the same cannot be said for relationship orientation in a South African context. The result was a revised measure of relationship orientation, and although this revision served the purpose of the study, it is acknowledge that it needs significant refinement based on primary research in this particular context.

The fact that more refined measures need to be developed to match the South African context cannot dispel the importance of innovation and relationship orientation. This study demonstrates a significant positive relation between innovation orientation and performance, as well as between relationship orientation and performance. In addition, the research showed the mediating effect of innovation orientation on the relationship between relationship orientation and firm performance. The results also suggest that higher levels of performance

are possible for firms that achieve an increased integration of innovation and relationship orientation. Likewise, firms that score low on both these orientations perform worse. Therefore, it is proposed that Business-to-Business firms need both an innovation orientation, as well as a relationship orientation. By integrating these strategic orientations, firms may enhance their performance beyond what may be possible by adoption only one of the orientations.

2.6 Limitations and further research

This study is limited in a number of ways of which the most notable is the absence of a random sample. Because the study had to rely on a non-probability sample, the findings remain of an explorative nature with limited generalizability. Secondly, the use of perceptual measures of performance may bring various limitations, such as common method bias, into consideration. A more robust measure of firm performance (possibly an objective measure) should enhance the quality of the findings. Finally, other research (Gao *et al.*, 2007; Srinivasan, Lilien and Rangaswamy, 2002; Zhou *et al.*, 2005b) suggests that technology orientation might represent an alternative for a similar study. Therefore it remains a concern that in general, respondents may easily confuse the definitions of technology and innovation and this may yield a bias response.

According to Zhou *et al.* (2005b) an overemphasis on customers could lead to trivial innovations and myopic research and development, which might lower the firm's innovative competence. Consequently, it can be argued that market-oriented firms may risk losing the foresight of innovating creatively in their attempt to serve customers' existing needs (Hamel, 2002). These observations amplify the need for research that attempts to consider multiple

strategic orientations. By considering various strategic orientations simultaneously, a combined effect may be observed, such as demonstrated by Berthon *et al.* (2004), Gao *et al.* (2007) and others. This will advance the research questions on strategic orientation to those of a portfolio question and how firms may shift their focus in orientation according to environmental demands, as opposed to which “singular” strategic orientation will yield the greatest benefit for the firm. More specifically, the measurement model used for Relationship orientation in this chapter remains unsatisfactory. And although various authors (Burgess 2003b; Khanna *et al.*, 2005; Klemz *et al.*, 2005; and Wright *et al.*, 2005) caution against the use of develop market criteria in emerging markets, the measure for relationship orientation is not robust enough to generalise the findings completely. However, the chapter does not focus on model fit as its primary objective. Rather it aims to demonstrate the importance of relationship to firm performance in an emerging market Business-to-business context.

Chapter 3: Measuring Network Competence in Buyer-Supplier Relationships

3.1 Introduction

A shift in the strategic context of business, driven by the institutionalisation of new technologies, created a network economy where interconnectivity and co-operation is common practice (Batt and Purchase, 2004; McGee, Thomas and Wilson, 2005). Researchers argue (Ford, Håkanson and Snehota, 2004; Freytag and Ritter, 2005; Johnston, Peters and Gassenheimer, 2006; Leek, Naudé and Turnbull, 2003; Ritter and Gemünden, 2004) that we have witnessed a change in the nature of industrial structures and customer expectations in Business-to-Business markets. Instead of straightforward buyer-seller relationships, many modern strategies now involve interconnected and complex structures, rarely to be fully understood from a singular point of view. Batt and Purchase (2004) echo this view and extend the argument by noting that business networks are forming around knowledge bases such that the maximisation of knowledge is obtained through network collaboration rather than through individual business units. Referring specifically to knowledge-driven networks, they noted the increasing reliance on external actors to acquire the desired resources for firms to grow and survive. This observation appears consistent with the resource-dependence perspective (Pfeffer and Salancik, 2003) as the network now becomes an important strategic resource. Batt and Purchase (2004) conclude that firms seldom survive and prosper solely through their individual efforts. Each firm's performance depends upon the activities and performance of others, and hence upon the nature and quality of the direct and indirect relationships a firm develops with its counterparts. It is not surprising that many authors (Ford *et al.*, 2004; Möller and Halinen, 1999; Parkhe, Wasserman and Ralston, 2006; Ritter, 1999; Ritter and Gemünden, 2003a) note that networks have gripped the attention of

marketing researchers, and impact on how firms compete. By contrast the notion of networks is not without criticism. Håkansson and Ford (2002) and Ritter *et al.* (2004) confirm that being embedded a network of ongoing business relationships can both enable and constrain performance. Moreover, a well developed network of relationships may tie a firm into its current ways of operating and restrict its ability to change. Managers then face a paradox that a network might be both the source of life for a firm and the cage that imprisons it. Put differently, a network is a way both to influence and to be influenced.

Managing a multiplicity of relationships with many buyers and sellers simultaneously requires certain competencies. Hence, researchers and practitioners alike often look to competence-based theory (CBT) to provide solutions to this problem. An extension of resource-based theory, CBT explains how firms develop strategies to exploit resources in their quest for competitive advantage (Hunt and Lambe, 2000). Primarily, it suggests that a firm seeks distinctive competencies (Hamel and Heene, 1994; Hitt and Ireland, 1986; Sirmon, Hitt and Ireland, 2007) as key components of their competitive strategy. From a network perspective this raises the question: What is it that any firm needs to do well, or needs to be capable of doing, in order to derive benefit from network relationships? Probing this question has lead Business-to-Business researchers to consider the competencies required to manage better in business networks. In 1997 Gemünden and Ritter (in Gemünden, Ritter and Walter, 1997) introduced the idea of network competence. Described as a higher order construct, network competence refers to the competencies that qualify (enable) firms to manage in networks, as well as the tasks to be executed in managing business relationships in the network. Later, Ritter, Wilkinson and Johnston (2002) suggested that measuring network competence is important and introduced the NetCompTest scale for this purpose. Based on these findings, measuring network competence in Business-to-Business networks at

transactional and account management level is the primary focus of this chapter. It implies that the focus is not on strategic relationships of the alliance or joint venture type. Rather, the study is concerned with the competencies firms might develop to manage better in networks of buyers and sellers, and the context-specific factors that may explain variation in measurement of network competence at this level. However, given the cross-sectional design of the study, it is not always possible to exclude the influences from perceptions based on exposure to strategic types of relationships in survey responses, and this may be amplified by vertical managerial mobility where managers often move freely between strategic and tactical responsibilities in less hierarchical organisations.

The chapter briefly motivates the importance of scale validation in a different context from the one in which it was conceived before stating the objectives of the research. The literature review starts by providing literature support for investigating network competence. Then it operationalises the constructs to be employed in this measurement of network competence, as dictated by the NetCompTest scale (Ritter *et al.*, 2002). This operationalisation leads to the construction of the research proposition and hypothesis. The chapter then describes the methodology and specifically reports on the procedure for scale refinement based on two consecutive implementations of the scale amongst South African Business-to-Business managers. Finally, the results are reported and, in addition to suggesting a refined scale, the chapter also identifies individual and firm factors that may impact on the measurement of network competence. The chapter concludes with some managerial implications and suggestions for further research.

3.2 Research question and objectives

Various authors (Nairn, Ede and Naudé, 2004; Rossiter, 2002; Stacey, 2005; Steenkamp and Burgess, 2002; Steenkamp and Trijp, 1997; Sweeney, Hausknecht and Soutar, 2000; Wright *et al.*, 2005) allude to the potential contribution of testing emerging theories in management and marketing in a variety of international contexts. More specifically, investigating the validity and reliability of a scale in a context other than the one in which it was conceived, may yield additional insights (Sweeney *et al.*, 2000) that can assist researchers in avoiding the temptation to treat such a construct as an “off-the-shelf” tool. This study argues that the continued refinement of the NetCompTest scale benefits from a South African application. South Africa is often referred to as an “emerging market” (Burgess and Steenkamp, 2006)² and Khanna, Palepu and Sinha (2005) suggest that firms from emerging markets that have strong networks and well-developed social capital may facilitate cooperation in developing knowledge and transferring it locally and/or internationally. Networks may be more difficult to operate in emerging markets because of the limited legal and institutional infrastructure preventing their fluid operation. Therefore, firms in emerging economies may develop network capabilities to overcome their lack of market institutions, and thus gain advantage. This provides further support for the idea of testing the measurement of network competence in South Africa. Moreover, many authors (Bandyopadhyay, 2001; Burgess, 2003b; Cavusgil, 1997; Khanna *et al.*, 2005; Klemz *et al.*, 2005; Sowinski, 2000; Wright *et al.*, 2005) agree that businesses in emerging markets face unique challenges, and the assumption that strategies that are successful in developed markets will work in emerging markets needs to be

² They define Emerging Markets broadly as countries in which PPP-adjusted GDP per capita (converted to U.S. dollar and smoothed for three-year currency fluctuations) is equal to or less than the highest-ranked country classified as “middle income” by the World Bank. They use GDP per capita as opposed to gross national income, because GDP excludes remittances from other countries, and they argue that GDP is a better measure of domestic growth and economic performance and hence more useful for the purposes of most marketers.

challenged. Arguably, emerging markets may provide a new context in which to understand the relative strengths and weaknesses of these different perspectives. From these observations the researcher formulates the primary research question of this chapter: Is the NetCompTest scale a reliable and valid construct for measuring network competence of B2B firms in the South African context? Observing the performance of the scale in a South African context should provide valuable insights for scale refinement, and contribute towards providing managers with a method for considering their firm's competence to manage in complex business networks.

Given this plethora of support for testing scale performance across various contexts, the primary objective of this study is to confirm the reliability (Cronbach, 1951; Finn and Kayande, 1997) and construct validity (Edmundson and Koch, 1993; Farrell and Oczkowski, 1997; Lucas, Diener and Suh, 1996; Madden, Dillon and Twible, 1986) of the NetCompTest scale as a measure of network competence amongst Business-to-Business managers in South Africa. De Klerk and Kroon (2008) consider the motivations behind network relationships and report some variations based on firm and individual characteristics. As secondary objectives, and consistent with the findings of De Klerk and Kroon (2008), the study includes the characteristics suggested by De Klerk and Kroon, but also expands on them by adding both firm and individual characteristics.

3.3 The importance of inter-organisational networks and network competence

Recently, the study of networks in business received significant attention (Dyer and Hatch, 2006; Golfetto and Gibbert, 2006; Gwendolyn, 2007; Mesquita, Anand and Brush, 2008) and a rich body of literature is to be found on competencies in Business-to-Business relationships and buyer-supplier networks (Atuahene-Gima, 2005; Awauh, 2001; Bush *et al.*, 2001;

Harland and Knight, 2001; Harmsen and Jensen, 2004; Ritter, 1999; Ritter *et al.*, 2002; Ritter and Gemünden, 2003b; Ritter and Gemünden, 2004; Sanchez and Heene, 2004; Savolainen, 2002). As indicated earlier however, the network approach is also criticized. For example, Hansen (1999) could only confirm partial support for the notion that an increased number of direct relations in the network results in shorter project completion times. Also, in comparing the views from network and strategy researchers, Baraldi *et al.* (2007) noted some difficulties with resource-based theory (RBT) to explain competitive behaviour if a network approach is assumed. Given the arguments for and against the notion of buyer-seller networks and specifically network competence, it should be acknowledged that firms are often limited in their ability to develop network competencies with the aim of optimising their network management efforts. Also, Freytag and Ritter (2005) suggest that when the overall collaborative efforts of the network are well-directed, the network may become stronger and the inherent dynamics of business networks may create additional managerial challenges.

In accordance with resource-dependence theory (Forsgren, Holm and Johanson, 2005; Pfeffer and Salancik, 2003), the reliance on other network actors ensures that collaboration between internal and external actors requires *expertise* and *competence* if the relationship is to be successfully maintained (Ritter *et al.*, 2002). The cited lack of research attention to these actor characteristics (Draulans, Demon and Volberda, 2003; Duysters, Man and Wildeman, 1999), and specifically the linkage between these characteristics and firm performance, further supports this attempt to consider the measurement of network competence. Arguably, a reliable and valid measure of network competence should provide a useful link to consider its relationship with measures of firm performance. Clearly, the potential importance of a refined scale is evident.

3.4 Network competence

Specific reference to competence in a Business-to-Business (B2B) marketing context is made by Hedaa and Ritter (2004) when considering ways to express the relationship between a buyer and a seller. Drawing on the contributions from previous authors (Ford and Saren, 1996; Håkansson, Johanson and Wootz, 1976), they note that a supplier needs to have competence, capability and/or ability that are the basis for its interaction with customers. Several of these authors (Ford and Saren, 1996; Håkansson *et al.*, 1976) also make a distinction between *problem-solving ability* and *transfer ability* of a competence. Problem-solving ability is the competence to fulfil a customer's demands and provide value for the customer, and consists of process and product competence, whilst transfer ability describes the competence to transfer the firm's problem-solving ability, such as logistics or market technologies, to a given customer's situation. In turn, Hedaa and Ritter (2004) noted that a change in orientation from individual relationships towards an understanding of complex systems of relationships (networks) has evolved. This implies that the quality of a solution for customers is measured not only in relation to one problem, but also how well the solution fits into the network. In addition, this evolutionary nature of networks also suggests that limiting measurement of network competence to a specific point in time may not be entirely appropriate. At best, a single measurement can provide a picture at a given point in time. Ideally, a longitudinal research design will facilitate better measurement.

Awauh (2001) argues that most discussions on network competence are very ethnocentric, and the embeddedness of the firm in networks and how that impinges on its competence development is not taken into account. This position results in the introduction (Awauh, 2001) of a modified model of competence development through a network of exchange relationships. Awauh's approach assumes that the firm's competence development is

influenced by its interaction with others. This depends on: (a) the transfer of elements, including product/service exchanges, information exchanges, financial exchanges and social exchanges between interacting parties; (b) mutual learning as a result and driver of exchanges, and (c) mutual adaptations that all parties involved may choose to make. In this continuous cycle the competence of the interacting parties may develop over time. Although each actor has his own interests at heart, and will seek to promote those interests, in a situation where parties understand the interdependence of the network, they may well be mindful of how they conduct themselves to benefit (not harm) the network. Hence, the learning that comes from other parties in the network is very important, since the activities of actors are interconnected. Any actor's inability to meet customers' demands might have an effect on the others with whom they interact, especially their immediate trading partners.

Network competence is considered to be a company-specific ability to handle, use, and exploit inter-organisational relationships (Ritter *et al.*, 2002; Ritter and Gemünden, 2003b). In addition, it is postulated (Ritter *et al.*, 2002; Ritter and Gemünden, 2003b) that the availability of resources, a network orientation towards human resource management, the integration of intra-organisational communication, and the openness of corporate culture are antecedents that account for the development and establishment of network competence within the networking company. This recognises that firms are embedded in networks of cooperative and competitive relations with other organisations (Achrol and Kotler, 1999; Anderson, Fornell and Lehmann *et al.*, 1994; Ford *et al.*, 2003). Within these networks the inter-organisational relationships are often long-term arrangements (or intended as long-term arrangements), maintained for some overall functional purpose. However, according to Ritter *et al.* (2002), there appear to be substantial differences in the ability of firms to deal with networks – providing more support for measuring network competence.

3.4.1 Components of network competence

Ritter *et al.* (2002) describe network competence as an embedded firm construct because the ability to manage in networks is inseparable from the company itself. The term competence is used to describe preconditions (i.e., resources, skills, or knowledge) necessary to perform certain tasks with respect to business networks. In this conceptualisation competence is also recognised as a process, and the execution of tasks to develop and maintain network relationships is incorporated. Hence, their definition (Ritter *et al.*, 2002) seeks to include having both the necessary knowledge, skills, resources, and the execution of the network tasks effectively. In this study, the former (resources, skills, or knowledge) are collectively referred to as “network management qualifications”, while the latter (the execution of tasks) is referred to “task execution”. To be consistent, this chapter will retain the reference to network work management qualifications, while the term “network management tasks” will be adopted to replace “task execution”.

3.4.1.1 Network management tasks

The contributions of multiple authors (Håkansson and Ford, 2002; Möller and Halinen, 1999; Wilkinson and Young, 2002) suggest that a distinction between tasks which are relevant to managing a single relationship and tasks which are necessary to manage a portfolio of relationships is useful. Three different types of *relationship-specific tasks* (initiation of relationships, exchanging products and services and coordinating dyadic relationships) are supplemented with “adaptations” from both sides of the dyad to contribute to that specific relationship. This addition is well supported in recent research by Fang *et al.* (2008) and Palmatier (2007), who refer to it as relationship-specific investments (RSI). For the purpose

of this study the researcher maintains the reference to relationship-specific tasks. In terms of *cross-relational* tasks, Ritter *et al.* (2002) draw on the widely recognised managerial tasks of planning, organising, staffing and controlling in general management literature (Carroll and Gillen, 1987; Fottler, 1981; Lichtenstein and Dade, 2007; Wernerfelt, 1989; Witzel, 2002) to support their approach. These tasks are present in all relationship management activities and partially reflect the firm's competence in network management. The reference to cross-relational tasks is retained for this study.

3.4.1.2 Network management qualifications

Ritter *et al.* (2002) also make a distinction between specialist (also referred to as “special”) qualifications and social qualifications. *Specialist qualifications* deal with the “technical side of the relationship” (Ritter *et al.*, 2002:121) and include political, legal and economic specialties, as well as knowledge about other actors. In turn, these imply information about the operations of network partners and their resources. *Social qualifications* refer to how organisation members behave in inter-organisational settings. They include aspects such as communication ability, extraversion, conflict management skills, empathy, emotional stability, self-reflectiveness, sense of justice, and cooperativeness. Such aspects reflect the interpersonal interactions between Business-to-Business actors in a network, and are considered important determinants of network competence. The term “specialist qualifications” is maintained for this study and is also referred to as “special qualifications”. Similarly, the term “social qualifications” is retained without adjustment.

In conclusion, Ritter *et al.*'s (2002) definition of network competence refers to the sum of how well the firm is qualified to operate in a network or in several networks, combined with how well network management tasks can be executed. Network qualification suggests a

collection of resources, whilst network management task execution refers to the ability to employ these resources to operate synergistically within a network. Combined, they constitute a competence called network competence (Figure 3.1).

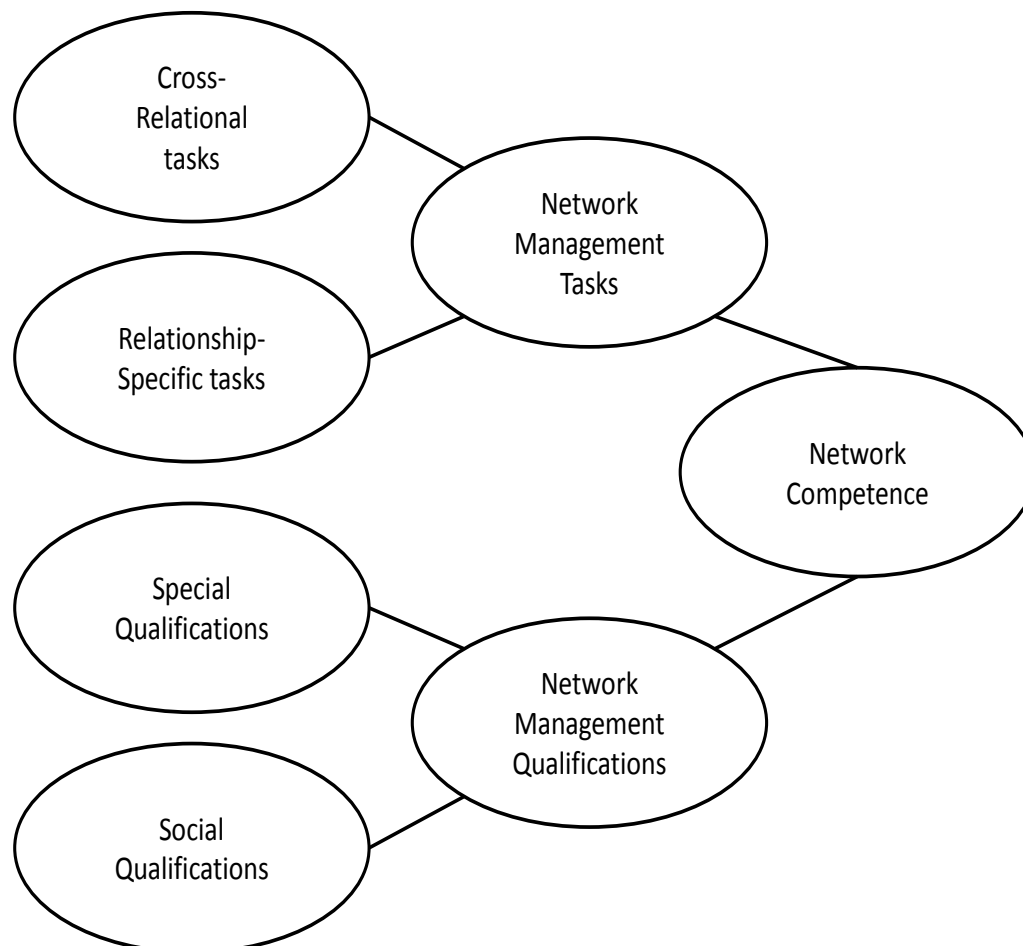


Figure 3.1: Dimensions of the network competence concept

Source: Adapted from Ritter, Wilkinson and Johnston (2002) and Ritter and Gemünden (2003b)

Figure 3.1 depicts the dimensions that Ritter *et al.* (2002) employ to develop the NetCompTest (Appendix B2) scale to measure network competence. In their research a battery of 78 statements was administered to a sample of 405 MBA students from Germany, the United Kingdom and Malaysia. The result was a refined 22-items scale corresponding to four dimensions as depicted by the model (figure 3.1) and all the dimensions yielded

Cronbach alpha coefficients higher than 0.7, indicating good reliability. The scale primarily measures an individual's responses to the four first order dimensions of cross-relational tasks, relationship-specific tasks, special qualifications and social qualifications. Therefore, in this study it was decided to consider the contribution of each first order item on network competence. Following this notion that network competence can be measured by using four dimensions, the primary research proposition for this study is formulated as follows: *The NetCompTest scale demonstrates sufficient internal reliability and construct validity to measure network competence in a South African Business-to-Business context.*

In addition to describing network competence as an embedded firm construct, Ritter *et al.* (2002) argue that it is a firm-wide responsibility, and therefore subject to the characteristics of the firm (also referred to as organisational characteristics) and the individuals (also referred to as personal characteristics) within the firm. In terms of the individuals within the firm, there is ample support from social network theory (Gwendolyn, 2007; Iacobucci and Hopkins, 1992; Moller and Rajala, 2007; Ross and Robertson, 2007; Van der Merwe, *et al.*, 2007) that suggests the individuals play a significant role in network management. Similarly, the literature exhibits support for the idea that firm (referred to as "actors" in a network context) characteristics (Draulans *et al.*, 2003; Duysters *et al.*, 1999) play an important part in network management. More recently, and more specific to South Africa, De Klerk and Kroon (2008), in their analysis of the motivations and/or value drivers behind the participation in networks, include both firm characteristics (such as firm size and primary industry type), and individual characteristics (such as age, education and experience) as potential sources of variance. Consistent with De Klerk and Kroon (2008) and Zahra and George (2002), this study will also attempt to test for variation based on these characteristics, except that in this study the variance in network competence is considered. Therefore, as a secondary objective,

the study includes the De Klerk and Kroon characteristics, but also expands on them by adding more firm characteristics (firm type, ownership, and more measures of firm size) and more individual characteristics (functionality, managerial level and ethnicity). The inclusion of these characteristics facilitates the formulation of two more hypotheses:

H1: There is no significant difference in the overall network competence scores produced by the NetCompTest scale based on firm factors in a South African Business-to-Business context.

H2: There is no significant difference in the overall network competence scores produced by the NetCompTest scale based on individual factors in a South African Business-to-Business context.

3.5 Methodology

3.5.1 The sample and data collection

The empirical design of the research included a pilot study for the purposes of scale refinement, and a final study with a larger sample to confirm the performance of the scale in a South African context. The sample frame was defined as managers responsible for the creation and/or maintenance of Business-to-Business relationships. This sample frame was used for both the pilot study and the final study. Because a single inclusive database of all Business-to-Business managers is not available in South Africa, a non-probability purposive sampling method was employed for both the pilot and the final study. This is a limitation of the study as it is not representative of all Business-to-Business managers, but it does exclude non-Business-to-Business managers or alternatively exclusive business-to-consumer managers. The respondents were obtained from a personal database of the researcher, which

includes firms with an exclusive Business-to-Business market focus, as well as firms that serve both business and consumer markets.

The data were collected by means of a structured questionnaire (summarised in Appendix B) which contained the NetCompTest scale and the demographic variables relating to firm and individual respondents' characteristics. In the case of the pilot study, the original 22-item NetCompTest was used with only editorial adjustments to reflect a South African context. For the final study the refined scale that resulted from the pilot study was included. For both samples a multi-respondent method was employed. This means that a single firm might have more than one respondent. The pilot study yielded 268 respondents from 30 firms, whilst the final study yielded 495 from 100 firms. This is regarded as satisfactory as the pilot study represented more than 30% of the respondents in the final study.

3.5.2 Data analysis

Because the primary objective of the study was to explore the appropriateness of the network competence scale under South African conditions, the analysis focused on internal reliability and construct validity in an attempt to gauge the usefulness of the scale in a particular context. Reliability, referring to the ability of the measurement construct to produce the same or similar results with repeated measurements, was considered through Cronbach's alpha coefficient and item-to-total correlations. According to Cooper and Schindler (2006), reliability can be defined as the extent to which a measurement is free of variable error. Thus, the reliability indicates the precision of measurement scores or how accurately such scores will be reproduced if the measurement is repeated. A generally accepted approach (Jarvis, Mackenzie and Podsakoff, 2003; Locke, 2000; Ruekert and Churchill Jr, 1984) for assessing the reliability is to determine the portion of the systematic variation in a measurement scale.

In order to achieve this, the association between scores obtained from two scales, when one scale is a similar replicated version of the other, is determined. If the scores derived from the two scales are high, the scales are consistent in yielding the same result, and are therefore reliable. A correlation coefficient is commonly used for this measurement, and according to McDaniel and Gates (2006), most emphasis in modern social science has been placed on internal consistency and reliability. In this case, item scores obtained from administering the scale are split in half and the resulting halves are correlated. It follows that item-to-total correlations are employed to measure the correlation of each item to the total. Although this approach might be useful, it is also limited in the way that the halves are obtained. This problem can be overcome by using Cronbach's alpha coefficient. Cronbach's alpha is a mean reliability coefficient calculated from all possible split-half partitions of the measurement scale.

Construct validity was considered through the use of confirmatory factor analysis in Structural Equation Modeling (SEM) for the pilot and the final study. Validity refers to the extent to which differences in the observed scale scores reflect true differences in the characteristics or constructs being measured (Bagozzi and Foxall, 1995; Locke, 2000; Ruekert and Churchill Jr, 1984; Stacey, 2005). Thus, validity (like reliability) is concerned with error. In the case of validity, consistent or systematic error, rather than variable error, is under consideration. Confirmatory factor analysis differs philosophically from exploratory factor analysis in that the researcher is required to specify the number of factors and which factors will load onto variables. Structural Equation Modeling is then employed to test the extent to which the researcher's *a priori* pattern is represented in the data (Hair Jr *et al.*, 2007). SEM not only allows the researcher the opportunity to consider multiple observed variables, but it also explicitly takes measurement error into account and gives greater

recognition to measurement constructs. In addition, it also provides for considering differences between constructs simultaneously (Bagozzi, 1994; Chin, 1998; Netermeyer, Durvasula and Lichtenstein, 1991; Netemeyer *et al.*, 2004).

Finally, differences between multiple groups were considered through analysis of variance (ANOVA) and in cases where only two groups are compared the t-statistic (t-test) was employed. These remain the most common measures to consider differences between groups. ANOVA employs the mean square between groups and the mean square error to compute an F-statistic, while the t-statistic indicates how extreme a statistical estimate is by subtracting the hypothesised value from the statistical estimate and then dividing it by the estimated standard error. The approach is formalised by comparing the t-statistic to a percentile from the t-distribution.

3.6 Results

This section briefly describes the demographics of both samples before it reports the findings of the pilot study which resulted in a refined scale. The remaining sections are allocated to reporting the results of the confirmatory factor analysis based on the refined scale in the final study. In conclusion, the results of the ANOVA analysis are reported to consider differences between groups based on firm and individual characteristics.

Comparing the sample characteristics (Table 3.1) revealed significant sample equivalence and the pilot sample is considered representative of the intended final sample. Some key observations regarding the samples are:

- The majority of respondents in both samples were from South African-owned firms and derived the majority of their sales from business activities in South Africa.
- In both samples the primary sectors (based on the standard industrial classification by the Department of Trade and Industry, 2005) Wholesale and Retail Trade, Financial Services, Manufacturing and Construction was best represented.
- Cumulatively, the majority of respondents in both samples indicated that they held either top or middle management positions.
- Also, in both samples, Sales, Operations and Marketing were the best represented functional areas of deployment.
- A wide spectrum of large and smaller firms³ were included in both samples as 68%-70% of the firms employ fewer than 300 people, while up to 13% have more than 5000 employees, and more than 30% of the firms have an annual turnover of more than R50 million.
- In both samples a significant portion (34.1% and 50% for the pilot and final studies, respectively) of the respondents was younger than 40 years, and the average age of both samples was between 36 and 40 years.
- Finally, in both samples the majority of respondents (73% and 71%, respectively) were males.

³ In this section the reference to firm(s) implies respondents from those firms where applicable. No aggregation of responses was done at firm level.

Table 3.1: Comparative sample characteristic for pilot and final studies

Characteristic	Pilot*	Final*
N	268	495
Firms represented	31	100
% Private sector firms	93%	92%
% South African firms	77%	77%
% of sales generated from South African Markets	88%	84%
<i>Major Standard Industrial Classification (SIC) categories:</i>		
Wholesale and Retail Trade	22%	21%
Financial Services	18%	21%
Manufacturing	15%	18%
Construction	12%	12%
Other (6 categories)	33%	28%
<i>Managerial position:</i>		
% Top management	51%	48%
Cumulative % top and middle management	86%	84%
<i>Functional deployment:</i>		
% in Marketing and Sales Management	28%	30%
% in Operations Management	36%	15%
<i>Firm size by number of employees:</i>		
% < 300	70%	68%
% > 5000	13%	12%
<i>Firm size by annual turnover:</i>		
% < R10 million	42%	36%
% > R50 million	32%	33%
Average respondent age (years)	36-40	36-40
% younger than 40 years	34%	50%
% Male respondents	73%	71%
% Female respondents	27%	29%
<i>Ethnicity:</i>		
% Black	10%	10%
% White	58%	55%
% Coloured	14%	14%

*Rounded to the nearest 10.

3.6.1 Pilot study results

3.6.1.1 Reliability (pilot study)

As indicated, the reliability of the scale used in the pilot study was considered through the use of the Cronbach's alpha coefficient. The overall Cronbach alpha for the 22-item scale exceeded 0.7 ($\alpha = 0.874$), indicating good reliability. However, item 6 and item 7 produced unsatisfactory (<0.3) item-to-total correlations (item 6 = 0.289; item 7 = 0.266). This suggests that these two items may be eliminated from the scale without affecting the overall reliability of the scale.

3.6.1.2 Validity (pilot study)

The data were subjected to confirmatory factor analysis (using Lisrel 8.8) in order to consider each of the dimensions separately before attempting a composite model fit. Based on the recommendation by Hair *et al.* (2006), factor loadings of 0.5 and higher was considered significant for the analysis. The results of this analysis for each dimension (factor) of network competence are as follows:

The “cross-relational tasks” dimension did not yield an *a priori* good fit, and had a root mean square error of approximation (RMSEA) of 0.15 which improved if item 2 was eliminated. In the case of the “relational-specific tasks” dimension, an *a priori* weak fit (RMSEA = 0.25) was also observed, but improved (RMSEA = 0.074, $\chi^2 = 0.088$) after items 10 and 11 were dropped from the scale. In addition, the “specialist qualifications” dimension yielded a poor *a priori* fit (RMSEA = 0.32), and dropping item 12 (as suggested by the EFA) led to a saturated model with no degrees of freedom. However, adding item 16 yielded a much improved fit (RMSEA = 0.018). Finally, the “social qualification” dimension also yielded a weak *a priori* fit (RMSEA = 0.10) which can be significantly enhanced (RMSEA = 0.02) by dropping items 16, 17 and 22. This analysis resulted in the removal of items 2, 10, 11, 12, 17 and 22, while item 16 was allowed to load on to the “special qualifications” dimension. This manipulation suggested an *a priori* structure containing the four first-order factors, as suggested by Ritter *et al.* (2002), and achieved an acceptable fit ($\chi^2 = 232.30$; $df = 110$; $p = 0.000$; RMSEA = 0.056). The result of this analysis was a revised scale presented in Table 3.2.

Table 3.2: Adjusted 15-item scale for network competence

Network Management Tasks	<p>Cross-relational Tasks</p> <ol style="list-style-type: none"> 1. We evaluate the way our relationship with each business partner depends on our relationship with other business partners. 2. We organise regular meetings among those in our firm involved in relationships with our business partners. 3. We assign people to each relationship with our business partners. 4. We assign responsibility to people for each relationship with our business partners. <p>Relationship-specific Tasks</p> <ol style="list-style-type: none"> 5. We use organisations apart from our existing business partners, to identify potential technical partners (e.g. Chambers of commerce, consultants, industry associations, government organisations). 6. We visit industrial fairs and exhibitions to identify potential business partners. 7. We look at company advertisements in specialised journals to identify potential business partners. 8. We discuss ways of collaborating with people from our business partners.
Network Management Qualifications	<p>Special Qualifications</p> <ol style="list-style-type: none"> 9. Our Business partners (they) have good knowledge about the way our firm works. 10. They have good knowledge about the way 'our technical partners' firms work. 11. They are experienced in dealing with 'technical partners'. <p>Social Qualifications</p> <ol style="list-style-type: none"> 12. They mix well with other people. 13. They easily sense potential conflict. 14. They can work out constructive solutions when there is conflict. 15. They can easily put themselves in another person's position.

3.6.2 Final study results

The original NetcompTest scale, having been adjusted to a 15-item scale, was subjected to another round of testing with a larger sample. This round also employed a multi-respondent, non-probability sample of 495 respondents from 100 Business-to-Business firms in South Africa. The refined scale used in the second round of analysis was also subjected to reliability and validity testing through confirmatory factor analysis (CFA) using LISREL (Jöreskog and Sörbom, 1993; Jöreskog and Sörbom, 1999).

3.6.2.1 Reliability (final study)

In this round (N = 495) the overall Cronbach's alpha coefficient (α) for the refined scale exceeded 0.7 ($\alpha = 0.812$), indicating good reliability. However, it was noted that items 1 (0.180) and 8 (0.018) had weak (<0.3) item-to-total correlations, indicating that these items may be removed from the scale without influencing the total reliability of the scale. This appeared inconsistent with the findings of the first round administration and therefore these items were retained for the construct validity analysis.

3.6.2.2 Validity (final study)

All the items exhibit significant loadings (>0.5), and by using the robust maximum likelihood estimation method the confirmatory factor analysis yielded acceptable fit statistics: $\chi^2 = 44.0$; $df = 29$; $p = 0.03$; RMSEA = 0.033. Other notable "goodness-of-fit" statistics for this model include: NFI = 0.97, CFI = 0.99, GFI = 0.98 and AGFI = 0.96. On the basis of both the reliability and validity analysis, the first research proposition could only be partially supported as the reliability of the measurement is in doubt.

3.6.3 Individual and firm factors

Individual and firm factors that were expected to have an influence on the overall network competence scores (and its four latent variables separately) were included in this analysis. Firm factors included firm type, firm nationality, economic sector, black economic empowerment (BEE), and firm size. Individual factors included managerial function, managerial level, respondent age, respondent nationality, ethnicity, and gender. Table 3.3 reports these results. In terms of firm type (referring to whether it is a for-profit company, a not-for-profit organisation, or a government institution), no significant differences were

observed to the overall network competence score, and the means of latent variables ($p < 0.05$ is regarded as significant).

Similarly, no significant differences in the mean scores for latent variables and the overall network competence score were observed based on firm nationality (referring to whether a firm is fully South African-owned, partially foreign-owned, or fully foreign-owned). Respondents were also asked whether the majority of their sales originated in domestic or international markets. Levene's test for equality of variances was employed to compare these means for each latent variable and the overall network competences score. The data suggested that in the case of the "special qualifications" dimension ($F = 0.713$; $p = 0.399$) and the "social qualification" dimension ($F = 2.068$; $p = 0.152$) the means for these groups are different. However, a t-test for equality of means indicated that these ($t = 0.525(\text{DoF})$ and $t = 0.803(\text{DoF})$, respectively) differences are not significant at the 95% level.

It was expected that the mean network competence scores would differ significantly across industries as defined by the standard industrial classification (SIC) of all economic activity in South Africa. Surprisingly, with the exception of one dimension (cross-relational tasks), no significant differences in means scores were found. Further analysis revealed that for cross-relational tasks the mean scores of "private household exterritorial organisations, representatives of foreign governments and other activities not adequately defined" appeared to differ significantly from the means obtained from other categories. According to the Cohen (1988) criteria, these differences represent a medium (0.06) to large (0.14) effect at 0.09886.

Table 3.3: ANOVA results (F-statistic) for Firm and Individual Factors

	Cross- Relational Tasks	Relationship Specific Tasks	Special Qualifications	Social Qualifications	Overall Network Competence Score
<i>Descriptive statistics:</i>					
N	495	495	495	495	495
Mean	4.973	4.474	4.428	4.603	4.620
Median	5.250	4.500	4.670	4.670	4.630
Mode	5.500	4.750	5.000	5.000	4.630
Std Deviation	1.187	1.284	1.241	1.015	0.820
Variance	1.411	1.649	1.540	1.106	0.673
<i>Analysis of Variance:</i>					
<i>Organisational Factors:</i>					
Firm type	1.779 (0.171)	1.030 (0.359)	0.980 (0.907)	0.494 (0.611)	0.880 (0.416)
Ownership	0.097 (0.336)	0.809 (0.447)	0.716 (0.490)	0.792 (0.454)	0.189 (0.828)
SIC Category	2.533* (0.050)	0.756 (0.684)	1.295 (0.225)	1.397 (0.177)	1.586 (0.103)
Firm Size: Employees	3.284* (0.004)	1.008 (0.420)	0.357 (0.905)	0.643 (0.696)	1.344 (0.238)
Firm Size: Sales	1.514 (0.199)	0.460 (0.765)	0.416 (0.797)	0.520 (0.721)	0.368 (0.831)
<i>Individual Factors:</i>					
Functional Deployment	1.183 (0.299)	2.331* (0.010)	1.477 (0.140)	0.949 (0.494)	1.906* (0.039)
Managerial Level	1.065 (0.346)	2.295 (0.103)	1.641 (0.196)	0.137 (0.872)	1.021 (0.362)
Age	1.194 (0.310)	3.343* (0.003)	2.305* (0.035)	1.456 (0.194)	1.399 (0.215)
Race	0.811 (0.062)	2.724* (0.014)	0.938 (0.468)	1.778 (0.104)	2.029 (0.062)

Significance (p) is in parentheses

* Significant at 95% ($p < 0.05$) level

In South Africa the recent past has seen the introduction of black economic empowerment legislation to ensure transformation in the economy. This means that many firms are required to establish relationships with black-owned companies – essentially expanding their business networks. Hence, it was expected that the perceived level of BEE compliance would correlate positively with network competence. Correlation analysis revealed that overall network competence ($r = 0.231$; $p = 0.000$), specialist qualifications ($r = 0.267$; $p = 0.000$), and social

qualifications ($r = 0.263$; $p = 0.000$) correlate significantly positively with perceived BEE compliance at the 99% confidence level. Both the remaining dependent variables (cross-relational tasks and relationship-specific tasks) also exhibit positive, but weaker, correlations with perceived BEE compliance. This result suggests that increased levels of network competence may be associated with increased levels of BEE compliance.

The final firm variable included in the study is firm size as measured by the number of employees and sales. For firm size by number of employees, the ANOVA analysis revealed no significant difference between groups, with the exception of the cross-relational tasks variable. For this variable ($F = 3.284$, $df = 6$, $p = 0.004$) significant differences were found between firms having more than 5000 employees and firms with fewer than 50 employees, as well as for firms with between 300 and 1000 employees. For firm size measured by annual sales, no significant difference (ANOVA) between groups was found. These findings suggest that, as expected, firm size might not play a significant role in measuring network competence.

Similar to firm factors, individual factors (respondent) were also analysed for differences between groups. In considering the functional deployment of respondents, the analysis indicates that there are statistically significant differences in network competence according to managerial position for two of the latent variables in the network competence scale. These differences were observed for the relationship-specific tasks dimension ($p = 0.010$), as well as for the overall network competence score ($p = 0.039$). This finding suggests that managers from human resources sections score the relationship-specific competence of the firm differently from how managers in the marketing and information sections do it. There is also a difference between the mean scores of HR managers and sales managers on the overall

network competence for the firm. This finding is viewed with scepticism as the number of HR managers in the sample is very small (2.6%).

No significant difference between groups according to managerial level was found, suggesting that managerial seniority has little impact on the measure of perceived network competence. In contrast, respondent age appeared to contain some significant differences between groups for the relationship-specific dimension ($F = 3.343$, $\rho = 0.003$) and special qualifications ($F = 2.305$, $\rho = 0.035$) dimension. This result suggests that the respondents in the age category 46-50 years and respondents in the age categories younger than 45 years seem to respond differently. The generalisation of this finding is limited as only 8.2% of the sample came from the 46 to 50 age category. Interestingly, a t-test for equality of means revealed that the differences between South Africans and non-South Africans on four out of the five dimensions (including the overall network competence score) are significant. However, only 7.5% of the sample consisted of non-SA citizens and stronger evidence may be required. It was expected that within-country diversity (Burgess, 2003a) might reveal different network competence scores based on ethnicity. Therefore, it was somewhat surprising to find that no significant difference was observed for four out of five (including the overall network competence) dimensions based on ethnicity. Finally, t-test analysis also revealed no significant difference in the network competence scores between males and females.

These findings indicate that for most of the variables there appear to be no significant differences in the network competence scores based on various individual and firm variables. However, some significant differences in terms of industry type, firm size, functional area, respondent age and nationality were found, and H1 and H2 could not be accepted, suggesting

that network competence scores might be influenced by variations in individual and firm characteristics.

3.7 Discussion and managerial implications

The attention that buyer-seller networks receive internationally is well documented (Dyer and Hatch, 2006; Ford *et al.*, 2005; Freytag and Ritter, 2005; Håkansson, 2006; Håkansson and Ford, 2002; Leek *et al.*, 2003; Palmer, 2001; Parkhe *et al.*, 2006; Walter, Ritter and Gemünden, 2001). The same cannot be said for South African Business-to-Business networks and this study seeks to contribute towards filling that gap. Particularly the notion of network competencies poses interesting questions, including the challenge of creating and maintaining competitive advantage in an increasingly inter-connected (networked) environment. Research by Golfetto and Gibbert (2006) notes that existing work on the role of competencies in industrial marketing firstly focuses on established approaches to deal with competencies as inputs to organisational processes and the consequent attempts to establish how far marketing competencies such as customer relationship management, channel design, etc. lead to superior financial returns. Secondly, as supported by studies by De Klerk and Kroon (2008) and Ritter and Gemünden (2004), it also focuses on the marketing of competencies as a source for customer value. It is therefore unlikely that “network competence” will escape the competitive advantage debate, the reason being that a key question from a practitioner point-of-view remains: *For the firm not only to manage a network, but to be efficient in managing within a network, which competencies should be emphasised and developed?* In turn, this implies that some measurement of existing competencies is required and the idea to measure network competence contributes to answering this question. This study established partial support for the ability of the

NetCompTest scale to assist in such a measurement. Equally important is that the measurement done in this study suffers from a number of limitations, to be discussed in the following section. Even so, the Ritter *et al.* (2002) and Ritter and Gemünden (2003b) conceptualisation of network competence does appear useful. It is conceivable that a firm's competence for managing in networks is reliant upon

- the tasks it needs to execute across all relationships,
- the tasks specific to certain relationships,
- the special qualifications necessary to execute these tasks, and
- the social qualifications necessary to execute these tasks.

In contrast, the question may be asked: Is that enough? Furthermore, by adapting a broader resource-based theory perspective researchers might also consider network capabilities (Walter, Auer and Ritter, 2006) which originate with the notion of “marketing assets” (Hooley *et al.*, 2001; Hooley *et al.*, 2005) and include customer-based assets, distribution or supply chain-based assets, internal assets and alliance-based assets. Measuring network capabilities might provide additional insights and identify the relationship or overlap with network competence.

The measure of network competence presented in this study seems to hold for both for-profit and not-for-profit firms. This result is treated with some scepticism as the number of not-for-profit firms in the sample is very small (8%). Investigating such a proposition might yield new information and may well benefit for-profit firms. Similarly, the absence of a difference in the measurement of network competence between private and public firms, as well as the nationality of firms, might suffer from the same restriction, but contains fertile research grounds. Encouragingly, the fact that no significant difference between primary economic

sectors was found demonstrates the power of the scale for use in cross-sectional research designs. This result should also be treated with caution because primary sector classifications are defined very broadly and a more refined approach may yield different results. The correlation between network competence and perceived BEE compliance certainly warrants further investigation. In the South African business landscape this is a topic of considerable debate and adding this dimension should further enrich the dialogue. Finally, the measurement of network competence also seems uninfluenced by firm size. This is also encouraging and promotes the use of the scale in a variety of business environments.

In terms of individual factors, the results indicate statistically significant differences in network competence according to managerial function for two of the latent variables in the network competence scale. This should raise some interesting research and managerial questions. While it may also be inherent to a perceptual response, this is consistent with the findings suggested by studies on network pictures and network insight (Henneberg, Mouzas and Naudé, 2006; Mouzas, Henneberg and Naudé, 2008; Oberg, Henneberg and Mouzas, 2007). Such a differentiation may well attract further research attention as researchers seek to understand how different professionals perceive the firm and its position in an interconnected environment. A potentially significant contribution of this study is that it partially supports the finding of De Klerk and Kroon (2008) in terms of the observed difference in measurement for older (46-50 years) and younger respondents. They (De Klerk and Kroon) find a medium effect (based on practical significance) between younger and older respondents regarding the preference for a smaller, rather than larger, number of “participants” in a network, while in this study the difference was observed for relationship-specific tasks. This result suggests that managers might need to be sensitive to age when assigning managerial responsibilities for network relationships. Clearly, on face value, this seems highly controversial and warrants

further investigation. It is also encouraging to note no differences based on managerial level, ethnicity and gender in the measure of network competence. Again, it suggests that the scale is not influenced by these variables and provides further support for its application, but sample limitations dictate that researchers and practitioners must be careful to disregard these variables. Finally, the same limitation applies to the observed differences between South African and non-South African respondents. However, at the same time it supports the value of having multi-national management teams and it seems that, from a network perspective, South African firms may benefit from such diversity.

3.8 Limitations

The contribution of this study is limited to its specific objectives. In addition, it is also limited to some methodological restrictions. Key among these is the use of a non-probability sampling technique. Even though a perfect random sample for Business-to-Business managers might be very difficult to develop, future studies on network competence should aim to achieve this. A random sample will increase the ability to generalise the findings, and the factors that may or may not impact on the measurement could be isolated with more confidence. In addition, and consistent with the De Klerk and Kroon (2008) study, this study also employs a cross-sectional design. Such a design might increase the ability to generalise findings across various industry and firm types, but it often does not yield the richness of a longitudinal research design. Herein lies a further problematic issue often associated with scale refinement studies, namely that the NetCompTest scale cannot be treated as an “off-the-shelf” tool ready to be used. The scale might need adjustment to the various contexts for which it is intended.

Finally, it also appears that network competence is in need of conceptual refinement. The study cites many areas of questionable conceptualisation and these will have to withstand the test of time as a critical mass of literature in a South African context develops. Notable amongst these are the cited limitations of network theory to be seamlessly integrated with resource-based theory (Baraldi *et al.*, 2007) and its consequent limitations to contribute to competitive strategy. Opening this dialogue and expanding research to include issues such as the linkage between network competence, network capabilities and firm performance may reveal new and interesting insights for researchers, and may better prepare practitioners to formulate and implement strategy in complex buyer-seller networks.

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Chapter 4: Exploring the relationship between network competence, network capability and firm performance: A resource-based perspective in an emerging economy

4.1 Introduction

Attention to networks is powered by the notion that firms cannot survive and prosper solely through their individual efforts, and that each firm's performance depends upon the activities and performance of others. Hence, the nature and quality of the direct and indirect relationships that a firm develops with its counterparts (Batt and Purchase, 2004) is fundamental to managing in complex networks. Within the network context the question may then be posed: What is it that any firm needs to do well, or needs to be capable of doing, in order to derive benefits from networked relationships? It is argued that researchers should be able to contribute to this debate by considering the relationship between network competence, network capability and firm performance. In addition, this idea should be extended to emerging markets as various authors (Parkhe *et al.*, 2006; Ritter, 1999) concede that network thinking is a key factor in shaping global business architecture. This notion provides the rationale for the study documented in this chapter. It also implies that the objective of the research is to observe the performance of both scales (network competence and network capability) separately and together, as well as their relation to firm performance.

The concept of network competencies and capabilities is derived in part from the resource-based view (RBV) of a firm, a major pillar in the strategic management literature. This study employs resource-based theory (RBT) to construct a development path for network competencies and network capabilities. Such theorisation emphasises the difficulty in

bridging the gap between strategic planning and network theories as suggested by Baraldi, *et al.*, (2007) and Ford and Hakansson (2006). Finally, the usefulness of existing constructs are tested to investigate the relationship between network competencies, network capabilities and firm performance in an emerging market setting. The research shows that although these measures may be considered valid and reliable, the strength of their relationship with firm performance is varied.

4.2 The Resource-Based View and Business Networks

Despite criticism (Baraldi *et al.*, 2007), analysing firm resources and capabilities in order to select strategies that are most likely to offer good returns seems to remain a key focus in management literature. The idea of resources and capabilities is grounded in the RBV of a firm and has received considerable attention during the last decade. Hooley, *et al.*, (2001) argue that the resource-based perspective emerged to counter the excessive determinism of the Porterian view of competition, and that RBV emphasises the importance of key resources in achieving a competitive advantage (Fahy *et al.*, 2005; Fahy and Smithee, 1999; Teck-Yong, 2005). Camelo-Ordaz *et al.*, (2003), however, note that a firm's achievement of a sustainable competitive advantage depends not only on resources and capabilities in its competitive architecture, or on the consistency of these with its strategy, but also on the degree of fit between its resources and the set of critical strategic industrial factors. Some key ideas behind RBT, however, appear to present scholars with some problems.

According to Baraldi *et al.* (2007), the resource-based view of competitive advantage is based on the assumptions that firms are heterogeneous in terms of their control of important strategic resources, and that resources are not perfectly mobile between firms. They argue

that these ideas present a relaxation of the assumption that firms do not differ in their control of strategic resources. In terms of competitive advantage, it is noted that the RBV would argue that a firm has sustained competitive advantage when it is implementing a value-creating strategy not simultaneously being implemented by any current or potential competitors. Also, other firms should be unable to duplicate the benefits of this strategy. In short, for a resource (physical or human) to be a potential source of sustained competitive advantage, it must be valuable, rare, inimitable, and non-substitutable. In comparing these views with key perspectives from network scholars, Baraldi *et al.* (2007) noted some potential difficulties with the RBV in a network context.

Assuming that relationships and networks are considered to be resources themselves, then the relationship and network approach to strategy has something in common with the RBV in that the current resources of the firm are considered to be the key factor in determining the firm's strategic behaviour. While the RBV focuses on three principal categories of resources, the relationship and network approach identifies the firm's portfolio of relationships and its network of positional resources as the key factors in strategy formulation (Ford and Hakansson, 2006; Foss, 1999). Network literature seems to include a significantly broader view of resources and of the context within which they are considered.

Another area of debate relates to the ability of a firm to act independently – a key assumption in RBT. Under this assumption the firm is viewed as being independent of other actors and can therefore seek to manipulate resources optimally in the search for competitive advantage. This is referred to as the “myth of independence” by Ford and Håkansson (2006), who argue that true independence in a network is not possible as firms have a restricted view of the

surrounding network. Thus, firms are limited in their freedom to act independently because the outcomes of their actions are dependent upon the actions of other firms within the network. This interdependence suggests that no matter how strategically capable the firm may be, its own performance is linked to the performance of others in the network. Arguably, a firm's performance is, therefore, largely dependent on those with whom it interacts.

4.2.1 Competence-based theory

Competence-based theory (Hunt and Lambe, 2000) is also an "internal factors" theory and it complements RBT because it explains how firms develop strategies to exploit resources in their quest for competitive advantage. In fact, it is argued that competence-based theory (CBT) is a logical extension of RBT. Numerous theoretical and empirical studies (Atuahene-Gima, 2005; Awuah, 2001; Bush *et al.*, 2001; Hamel and Heene, 1994; Harland and Knight, 2001; Harmsen and Jensen, 2004; Meyer, 1991; Prahalad and Hamel, 1990; Ritter, 1999; Ritter and Gemünden, 2003b; Ritter and Gemünden, 2004; Ritter, Wilkinson and Johnston, 2002; Sanchez and Heene, 2004; Savolainen, 2002; Snow and Hrebiniak, 1980; Winter, 1988) have been developing CBT, and the idea of core (also referred to as "distinctive") competencies by Prahalad and Hamel (1990) and Teece and Pisano (1994) has received specific attention. Core competencies (1) provide access to a wide variety of markets, (2) make a significant contribution to customers' perceptions of benefits, and (3) are difficult for rivals to imitate. In addition, a firm must manage its competence(s) as a system and avoid excessive focus of managerial attention on developing and managing a "single competence" judged by some criteria to be "core". Hunt and Lambe (2000) also suggest that CBT employs assets and capabilities in the description of competencies – further blurring the borders between these concepts.

Although Baraldi *et al.*'s (2007) analysis points at the limitations of RBT and CBT to complement network approaches, it simultaneously recognises the validity of employing these theories in a network context. If network-mobilising incorporates the network competences and capabilities required for processes of internally-generated change, researchers should attempt to establish what tools, technologies and skills are necessary to better understand how firms are managed in networks. They (Baraldi *et al.*, 2007) concluded that little attention has been paid to the question of whether more successful firms have better mechanisms for managing their external relationships and networks than less successful companies. Researchers need to know whether firms that do achieve consistently above-average economic success have better internal resources and competences or capabilities for handling external relationships in the surrounding network than their rivals. This study attempts to contribute towards bridging this gap.

4.3 Competencies and Capabilities

According to Heene and Sanchez (1996), a competence is defined as an ability to sustain the coordinated “deployment of assets in a way that helps a firm achieve its goals”. Defined in this manner, it is viewed as a resource, even though it is practically an “intangible entity” that allows a firm to compete more effectively. According to Hunt and Lambe (2000), one may view a competence as being a higher-order resource that is a distinct combination of more basic resources.

In turn, the definition of capabilities appears to have followed a similar path which originates with the notion of “marketing assets” (Hooley *et al.*, 2001; Hooley *et al.*, 2005; Hooley and Greenley, 2005) and includes customer-based assets, distribution or supply chain-based assets, internal assets and alliance-based assets. Notably present in this collection are a number of “marketing assets” that relate strongly to networks and the firm’s ability to operate in network environments. Furthermore, marketing assets are distinguished from “marketing capabilities” – which is referred to as the “glue” that binds marketing competencies together and facilitates their effective deployment in the marketplace. The varied way in which the concepts of competencies and capabilities are used in the literature is demonstrated when these authors (Hooley *et al.*, 2001) employ the seminal work of Day (1994) to classify capabilities as outside-in (*those skills and competencies of the firm that help it to understand changes taking place in its markets together with those that enable the firm to operate more effectively in the market place*), inside-out processes (*these focus on the firm’s internal resources and capabilities such as financial management, cost control, technology development and integrated logistics*), and spanning capabilities (*those skills and competencies that serve to integrate inside-out and outside-in capabilities. They typically require both an understanding of market requirements and internal competencies to fulfil them*). In providing further support for the idea of network capabilities as in the context of this study, Day (1994) also refers to a set of capabilities for the purpose of competing, and in this regard specific reference is made to “networking capabilities”, also suggested by Cravens and Piercy (1994).

The studies cited above refer to attempts to consider the relationship between resources (including competencies and capabilities) and firm performance. Moreover, in their consideration of performance, a distinction is made between financial performance and

market performance. This separation appears useful to this study's consideration of firm performance. Hooley *et al.*'s (2005) research demonstrated how marketing resources impact on performance outcomes, with both direct and indirect relationships being found. Although these linkages may appear to be useful in investigating the relationship between marketing resources and firm performance, no specific mention of network competence and network capabilities was made.

4.4 Network Competencies and Capabilities

Research by Golfetto and Gibbert (2006) noted that existing work on the role of competencies in industrial marketing firstly focuses on established approaches to deal with competencies as inputs to firm processes and the consequent attempts to establish how marketing competencies such as customer relationship management, channel design, etc., lead to superior financial returns. Secondly, it also focuses on the marketing of competencies as a source of customer value. Similar to views by Baraldi *et al.* (2007), it is acknowledged that the resource-based view has become influential in explaining the origin of competitive advantage and differences in profitability, but has emphasised resources and competencies as highly specific internal factors.

Golfetto and Gibbert (2006) employ the reasoning of Barney and Airikan (2000) by suggesting that an integration of RBV and marketing may lead to viewing certain marketing processes as a special kind of competence. It then follows that the extent to which marketing competencies comply with the criteria of the RBV (value, rarity, immobility on factor markets and non-substitutability) will correlate with how they are expected to be a key ingredient of a competitive advantage that may lead to superior performance. This study concurs with this view and argues that it may be extended to business networks. The adoption

of this approach appears to be well supported in the literature. Firstly, according to Berghman, Matthyssens and Vandenbempt (2006), business marketers seeking to excel in value-creation must display their new value-creation potential and track record to stimulate network partners to cooperate. Secondly, Blois and Ramirez (2006) point out that there are significant opportunities for firms to establish unique and potentially profitable positions by recognising that some of the capabilities that they utilise in the creation of their products may themselves be marketable products. Thirdly, Ritter (2006) contributes to the notion of competence-based marketing and suggests a model of firm capabilities, and also indicates when to use competence-based communication approaches. Finally, according to Golfetto and Gibbert (2006), this work (the resource linkage to firm performance) is commendable since a firm's ability to exploit external knowledge may be considered a critical component of performance, and they (Golfetto and Gibbert, 2006) accept that a prime source of such external knowledge resides in the supply network.

Although grounded in RBT, the literature suggests that competencies and capabilities are often used interchangeably. For the purposes of this study a competence is viewed as an ability to sustain the coordinated deployment of an asset (Heene and Sanchez, 1996). In the case of capabilities the definition of a capability as an asset (Hooley *et al.*, 2001) is relaxed to that of a higher-order resource (Teece, Pisano and Shuen, 1997; Walter *et al.*, 2006) that can be either tangible or abstract. In this study it is suggested that capabilities and competencies are inherently interconnected. This distinction is made to isolate the underlying constructs and facilitate independent analysis. Extending this argument to network competencies and network capabilities, it is hypothesised that:

H1: *There is a positive relationship between network competence and network capability.*

4.4.1 Network competence (NCO)

Network competence (NCO) is considered to be a firm-specific ability to handle, use and exploit inter-firm relationships (Ritter *et al.*, 2002; Ritter and Gemünden, 2003b). This approach recognises that firms are embedded in networks of cooperative and competitive relations with other firms (Anderson *et al.*, 1994; Ford *et al.*, 1998; Achrol and Kotler, 1999). Within these networks the inter-organisational relationships are long-term arrangements, maintained for some overall functional purpose. According to Ritter *et al.* (2002), there appear to be substantial differences in the ability of firms to deal with networks.

Ritter *et al.* (2002) noted that the term competence is used to describe resources and preconditions such as qualifications, skills, or knowledge, necessary to perform certain tasks without considering the actual execution of the task itself. But, they also recognise competence as a process and incorporate both aspects in their conceptualisation of network competence. Hence, their definition seeks to include both having the necessary knowledge, skills and qualifications, as well as using them effectively. They further distinguish between the tasks that need to be performed in order to manage a firm's technological network and – on the other hand – the qualifications, skills, and knowledge that are needed in order to perform these tasks. The latter are referred to as “qualifications” (Ritter *et al.*, 2002:121). NCO is described (Ritter *et al.*, 2002) as an imbedded firm construct, and the ability to manage in networks is inseparable of the firm itself. Ritter *et al.* (2002) extend their argument further by noting that networking is a firm-wide responsibility, limited and supported by the firm's characteristics. Such a responsibility calls for a need for the whole firm to be network-orientated.

Building on the work of several authors (Håkansson and Ford, 2002; Möller and Halinen, 1999; Wilkinson and Young, 2002) suggests that a distinction between tasks which are relevant to managing a single relationship and tasks which are necessary to manage a portfolio of relationships (a network as a whole) is useful. Three different types of *relationship-specific tasks* (initiation of a relationships, exchanging products and services and coordinating dyadic relationships) is supplemented with “adaptations” from both sides of the dyad to contribute to that specific relationship. This approach seems to be supported in recent research (Fang *et al.*, 2008; Palmatier, Dant and Grewal, 2007). For *Cross-relational* tasks Ritter *et al.* (2002) draw on the widely recognised managerial tasks of planning, organising, staffing and controlling described in general management literature (Fottler, 1981; Carroll and Gillen, 1987; Lichtenstein and Dade, 2007; Wernerfelt, 1989; Witzel, 2002).

For *network management qualifications*, Ritter *et al.* (2002) make a distinction between specialist qualifications and social qualifications. *Specialist qualifications* deal with the “technical side of the relationship” and include political, legal economic specialities, as well as knowledge about other actors. In turn, these “technical aspects” include information about the operations of network partners, their staff and resources. *Social qualifications* refer to how people behave in a social setting. These qualifications include dimensions such as communication ability, extraversion, conflict management skills, empathy, emotional stability, self-reflectiveness, sense of justice, and cooperativeness. The authors (Ritter, *et al.*, 2002) noted that these are of special interest as the interpersonal interactions and relationships in business relations are very important.

Ritter *et al.* (2002) demonstrate a significant positive relationship between network competence and three performance-related measures, namely “technological interweavement, innovation success and market orientation”. Although the relationship between innovation orientation (Berthon *et al.*, 2004) and firm performance, as well as that between market orientation (Deshpandé and Farley, 1998; Harris, 2001; Jaworski, Stathakopoulos and Cadogan, 1993; Narver and Slater, 1990;) and firm performance has been demonstrated in the literature, Ritter, Wilkinson and Johnston’s (2002) theory does not seek to measure the direct relationship between network competence and firm performance. However, they specifically noted the need for robust measures and tests in order to understand the impact of network competence on firm performance (Ritter *et al.*, 2002). Therefore the second hypothesis is:

H2: *There is a positive relationship between network competence and firm performance.*

4.4.2 Network capability (NCA)

The idea of firms’ capabilities in a network context is considered by Walter *et al.* (2006) who conceptualise network capability as a higher-order construct and define it as a firm’s ability to develop and utilise inter-organisational relationships. Based on competence-based theory, they claim to consider networking ability rather than only the existence of a network. By considering the relationship between network capability (NCA) and performance of university spin-off firms, they observed that NCA strengthens the relationship between entrepreneurial orientation and spin-off performance, and it (NCA) moderates the relationship between entrepreneurial orientation and organisational performance. These findings led Walter *et al.* (2006) to conclude that firms develop their network capability and

their networks as a means of improving performance, and that NCA is an organisation-wide characteristic.

The development of the network capability construct is based on the contributions to “alliance capability” (Kale, Dyer and Singh, 2002), “relational capability” (Lorenzoni and Lipparini, 1999) and “network capability” (Anand and Khanna, 2000). Walter *et al.* (2006) specifically acknowledge the contribution of RBT in the network capability debate and propose that the NCA construct consists of four latent dimensions: Coordination, relational skills, market knowledge and internal communication. They therefore treat NCA as a composite construct that requires a formative measure because it is regarded as a higher-order “resource” that increases in magnitude as each of the four components increases. *Coordination* between collaborating firms is a boundary-spanning activity and connects the firm to other firms in order to effect mutually supportive interactions. *Relational skills* are viewed as important to the management of relationships because business relationships are often inter-personal. Such skills may include communication ability, extraversion, conflict management skills, empathy, emotional stability, self-reflection, sense of justice and cooperativeness. These factors are similar to the cited social qualifications in the NCO construct. *Partner knowledge* enables “situation-specific management” and includes the reduction of transaction costs, solution-oriented conflict management, and it stabilises a firm’s position, where necessary, within a network. It is argued (Walter *et al.* 2006) that this knowledge is a pre-requisite for effective coordination between parties, and contributes to the enhancement of internal communication. True to common belief, *internal communication* is central to a relational perspective. It deals with assimilating and disseminating up-to-date information on partners and their resources, as well as agreements with them in order to avoid redundant processes and miscommunication, while improving the detection of synergies.

Furthermore, Walter *et al.* (2006) observe that NCA has a key influence on a wide variety of performance measures. Specifically, it is suggested that this relationship should be considered “more seriously” as NCA’s relation to firm performance appears to be significant. Therefore, in an effort to gauge this relationship it is hypothesised that:

H3: *There is a positive relationship between network capability and firm performance*

The development, maintenance and growth of firm-level competencies and capabilities can only make sense if they contribute to competitive advantage (a primary position in RBT) and ultimately contribute to firm performance. In this study the treatment of firm performance is based largely on the work by Fynes and Voss (2002), Homburg, Krohmer and Workman (2004) and Hooley *et al.*, (2005) who support the use of perceptual measures of firm performance. In addition, the results of the qualitative research (see methods section) was consistent with the literature (Dess and Robinson, 1984; Hart and Banbury, 1994; Naman and Slevin, 1993; Palmatier *et al.*, 2007; Venkatraman and Ramanujam, 1987) which confirms that perceptual performance measures have been shown to have a high correlation with objective financial performance measures.

Against this background a conceptual model was constructed (Figure 4.1) where network competence (a composite construct consisting of four dimensions) and network capability (also a composite construct consisting of four dimensions), are related to a composite measure of firm performance (consisting of four perceptual measures). Earlier in this section

(4.4) it was noted that the literature (Heene and Sanchez, 1996; Hooley *et al.*, 2001; Teece, Pisano and Shuen, 1997) suggests that competencies and capabilities are often used interchangeably. In addition it was demonstrated that the definitions of these constructs show that network competence can be viewed as an ability to sustain the coordinated deployment of an asset while network capability is an asset in itself as a higher-order resource. Therefore, it is useful to model the relationship of both constructs with performance simultaneously. This approach is a key advantage of employing structural equation modelling.

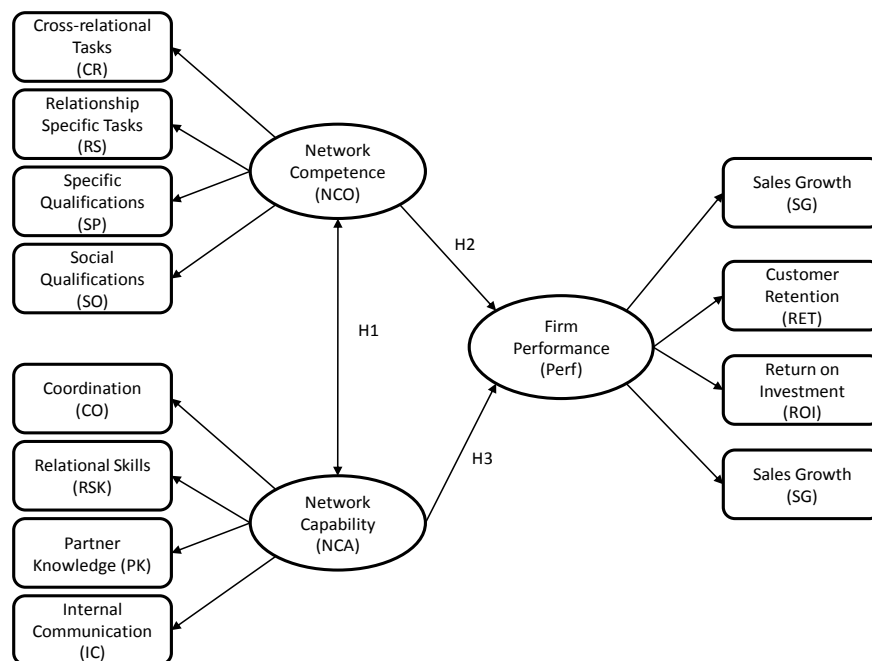


Figure 4.1: Conceptual model relating NCO, NCA and Firm Performance

4.5 Method

In the qualitative phase of the study, eight in-depth interviews were conducted with managers from the manufacturing, financial services and property development sectors. The interviews were aimed at obtaining (a) the managers' input regarding the scales to be used in the survey, (b) their views regarding performance measurement and (c) their views regarding the construction of the questionnaire and the data collection method. From these interviews it emerged that sales growth, customer retention, market share and return on investment (ROI) are the "top-of-mind" measures that managers consider when evaluating firm performance. Based on these results, a structured survey was distributed via fieldworkers using a multi-informant approach

4.5.1 Sample

The sample frame was defined as managers in a South African Business-to-Business setting. A non-probability convenience sample included 288 managers from 100 firms in the Johannesburg, Cape Town and Durban metropolitan areas. This sample yielded 227 (79%) responses from which eight (4%) of the cases were considered not useful, leaving 219 (76%) questionnaires for analysis.

4.5.2 Data collection

The questionnaire (summarised in Appendix C) contained the following: A fifteen-item scale, measuring four latent variables for network competence (NCO) based on that of Ritter, Wilkinson and Johnston (2002); a nineteen-item network capability (NCA) scale also measuring four latent variables based on that of Walter *et al.*, (2006); and four perceived measures of firm performance (sales growth, customer retention, ROI and market share)

which were based on work by Fynes and Voss (2002), Homburg, Krohmer and Workman (2004) and Hooley *et al.* (2005). Finally, the questionnaire also contained demographic information about the respondents (managerial discipline, managerial position, age, gender, citizenship and ethnicity) and about the firms (ownership, industry classification, number of employees, annual turnover and sales origin) that they represent. For the NCO, NCA and performance measures a unidirectional seven-point Likert-type scale was employed. In the case of the NCO and NCA scales a score of “1” equals “strongly disagree” and a score of “7” equals “strongly agree” was used. For the performance measures the scales were anchored at “Worse than our strongest competitor” (a score of 1) and “Better than our strongest competitor” (a score of 7).

4.5.3 Characteristics of the sample

The majority (85%) of the firms in the sample generated their business from local markets, and 76% viewed themselves as purely Business-to-Business firms. Manufacturing (21.5%), construction (11.4%), wholesale trade (19.2%) and financial intermediation (26%) represented the largest industry categories in the sample.

As expected, the majority (31%) of the respondents were from marketing and sales departments, and 21% indicated that they were general managers with multi-disciplinary responsibilities. In addition, another 13% claimed to be from operations management, and together these functional areas constituted 65% of the respondents. The average age of respondents was between 36 and 40 years, while 50% of the respondent indicated that they were from top management, while 36% claimed to be from middle management, with only 18% from junior management. As much as 55% of the sample was whites, and

encouragingly, the sample contained 31% females, which was expected to be much lower as men still largely dominate many areas of the South African economy.

4.5.4 Data analysis

The analysis first considered the reliability and validity of the NCO and NCA scales separately. As is customary for scale refinement, reliability was primarily considered through the calculation of Cronbach alpha coefficients, while discriminant validity was considered by way of exploratory factor analysis (EFA) in SPSS. Once the reliability and validity for the two network scales was observed to be satisfactory, confirmatory factor analysis (CFA) and structural equation modelling (SEM) were employed to gauge the hypothesised relationships. Structural equation modelling not only allows the researcher the opportunity to consider multiple observed variables, but it also explicitly takes measurement error into account and gives greater recognition to measurement constructs. Hence, through the use of SEM a particular relationship can be observed in the presence of other relationships. In addition, it provides an indication of how well the data fit the hypothesised model.

4.6 Results

4.6.1 Reliability and Validity

Both the network competence (NCO) and network capability scales were subjected to reliability and validity testing through exploratory factor analysis (EFA) using SPSS and confirmatory factor analysis (CFA) using LISREL (Jöreskog and Sörbom, 1993; Jöreskog and Sörbom, 1999). In the case of network competence, the original 22-item scale (Ritter, *et al.*, 2002) was refined to 15 items by eliminating items that either cross-loaded or had a loading of less than 0.3 (Palant, 2007). The overall Cronbach alpha coefficient (α) for the

refined scale was 0.776, indicating good reliability. In addition, the reliability for each underlying dimension of the NCO scale was also satisfactory as cross-relational tasks ($\alpha = 0,702$), relationship specific tasks ($\alpha = 0,708$), special qualifications ($\alpha = 0,716$) and social qualifications ($\alpha = 0,748$) all yielded Cronbach alpha coefficients above 0.7. In considering discriminant validity, the exploratory factor analysis (EFA) indicated that only two items yielded insignificant (<0.3) factor loadings, and these were thus eliminated. The remainder of the items loaded as expected and are depicted in the theoretical model. In addition, the KMO measure of sampling adequacy was above 0.6 (0.702), while the Bartlett's test of sphericity was also satisfactory ($\chi^2 = 932.401$; $df = 78$; $p = 0.000$). This initial analysis suggests that the data generated by the scale are suitable for factor analysis and that 64.5% of the variance was explained by the four factors, namely cross-relational tasks (CR), relationship specific tasks (RS), special qualifications (SP) and social qualifications (SO). In considering the measurement model by using the robust maximum likelihood estimation method, the confirmatory factor analysis yielded a reasonably good of fit ($\chi^2 = 108.11$; $df = 59$; $p = 0.000$; RMSEA = 0.062).

In the case of the network capability (NCA) scale, the underlying dimensions, namely coordination ($\alpha = 0.819$), relational skills ($\alpha = 0,758$), partner knowledge ($\alpha = 0.811$) and internal communication ($\alpha = 0.713$) all demonstrated good ($\alpha > 0.7$) reliability, and the overall scale ($\alpha = 0.886$) was considered to be reliable. Similar to NCO, the validity of the NCA was also considered through exploratory factor analysis and confirmatory factor analysis. The EFA indicated that one item returned an insignificant factor loading (< 0.3), and it was removed from the scale. For NCA the KMO measure of sampling adequacy was above 0.6 (0.832), and the Bartlett's test of sphericity was also satisfactory ($\chi^2 = 1589,42$; $df = 153$; $p = 0.000$). The CFA (also using the robust maximum likelihood estimation method)

suggested good construct validity as the 18 items (derived from the original 19-item scale) loaded as expected with no loading lower than 0.3. In addition, the factor structure suggested a reasonable fit ($\chi^2 = 266.62$; $df = 113$; $p = 0.000$; $RMSEA = 0.079$).

4.6.2 Structural Equation Modelling

The results of the SEM analysis (Figure 4.2) revealed that no significant effect for sales growth (indicated by SG as a performance measure in the Y model) could be observed. This led to the elimination of the sales growth variable in the model. All the other paths were retained and could be interpreted. Furthermore, the model exhibit good construct validity and internal consistency reliability (see table 4.1) which facilitated the interpretation of the structural model.

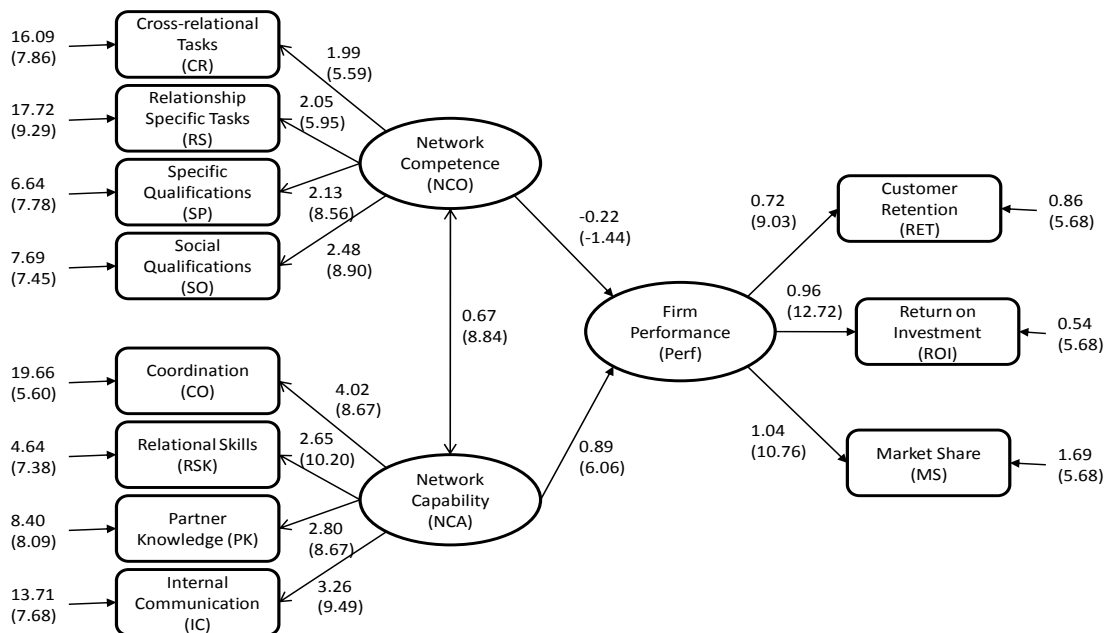


Figure 4. 2: Empirical model for NCO, NCA and Firm Performance

* t -values in parenthesis

Table 4.1 Structural model evaluation

Cross-loadings	Network Capability	Network Competence	Firm Performance
Network Capability (NCA)	0.785		
Network Competence (NCO)	0.518	0.681	
Firm Performance (Perf)	0.578	0.304	0.804
<i>Square Root of Average Variance Extracted (AVE) on diagonal</i>			
	AVE	α	R ²
Network Capability (NCA)	0.6167	0.7922	0
Network Competence (NCO)	0.4633	0.7135	0.2684
Firm Performance (Perf)	0.6468	0.7271	0.3344

Firstly, the analysis shows a significant positive relationship ($\beta=0.68$; $t=8.86$) between network competence (NCO) and network capability (NCA), confirming support for H1. Secondly, a weak and insignificant effect ($\beta = -0.22$; $t = -1.44$) between network competence (NCO) and the composite measure of firm performance (Perf) was observed. This leads to the rejection of H2. Finally, in support of H3, a robust effect ($\beta=0.89$; $t=6.06$) of network capability (NCA) on firm performance (Perf) was observed. In summary, these results suggest that while network competence and network capability are interrelated, network capability appears to have a significant impact on performance. Figure 4.2 also shows that the model achieve a weak fit ($\chi^2 = 124.86$; $df = 51$; $\rho = 0.000$; $RMSEA = 0.082$). The findings discussed here provide insight into the hypothesised paths between constructs associated with a firm's ability to manage in networked environments. Table 4.2 summarises these results.

Table 4.2: Summary of Results

Number	Hypothesised Relationship	Estimate	t=value	Result
H1	NCO ↔ NCA	0.67	8.84	Accept
H2	NCO → Perf	-0.22	-1.44	Reject
H3	NCA → Perf	0.89	6.06	Accept

4.7 Discussion

The results of this study indicate that the data support the underlying dimensions of both the network competence scale and the network capability scale as proposed in the literature. Moreover, both scales exhibit significant reliability and construct validity, suggesting their usefulness for measuring the unobserved construct. Although the notion of competence-based competition, and specifically the idea of distinctive competencies, is well documented and supported by the RBT literature, research support for network competence appears limited. Also, network competence seems to be joined at the hip with network capabilities. This was evident when latent variables were freed to cross-load in the model. More specifically, it appears that the dimension named “social qualifications” in the network competence scale and the “relational skills” dimension in the network capability scale share conceptualisation. Although the exploratory factor analysis in this study suggests that these dimensions exhibit discriminate validity, it is acknowledged that more robust analyses, such as those suggested by Fornell and Larcker (1981) and Anderson and Gerbing (1988), and using a random sample, should yield better insights. Such analyses are warranted as the social dimension of networks is well recognised and documented (Moller and Rajala, 2007; Teck-Yong, 2005). Both the network competence and network capability scale may benefit from such a refinement.

The data did not exhibit a strong effect for “sales growth”, and this variable was removed from the model. As mentioned in the literature review, sales growth is often employed as a performance measure in similar studies and, as such, this result was surprising. In a study by Palmatier, Dant and Grewal (2007) a significant positive relationship ($\beta = 0.21$, $t = 2.95$) between a buyer’s relationship quality with a particular salesperson and sales growth was observed, but a negative and insignificant relationship ($\beta = -0.07$, $t = -1.04$) was observed between a buyer’s relationship quality with the selling firm and sales growth. The latter

finding supports the exclusion of this variable and suggests differences between a firm-level versus a relationship-level analysis of sales growth. However, testing these variances is beyond the scope of this study.

Importantly, network competence was observed to have a weak and insignificant correlation with firm performance. In both the studies by Ritter *et al.* (2002) and Ritter and Gemünden (2003b), network competence is claimed to have a significant positive effect on performance. In both these studies performance is considered in terms of measures relating to innovation success and technological interweavement, with no direct reference to the type of performance measures employed in this study. Clearly, understanding the relationship between network competence and performance needs to be the subject of a more rigorous study supported by a random sample. It can be argued that increased networking competence may enhance relational performance, ultimately leading to growing sales through customer retention.

The positive and significant relationship between network capabilities and firm performance supports the results obtained from studies in other parts of the world (Walter *et al.*, 2006). The results in this regard strongly suggests that network capabilities need to be the focus of managerial attention if a firm seeks to enhance its ability to manage in complex networks. The advantage that may be derived from increased network capability is bound to have a positive effect on performance. Various authors (Han, Kim and Srivastava, 1998; Kale, Dyer and Singh, 2002; Walter, Auer and Ritter, 2006) support this by noting that NCA, as a firm-level concept that promotes network-oriented behaviour, can support superior performance by disseminating information throughout the firm and within the supplier network. In addition, high-NCA firms may be better able to anticipate new preferences, are more aware

of competitors' actions, and can develop new value propositions more rapidly. In particular, the potential benefits of network capability to enhance time-to-market processes for new innovations (Walter *et al.*, 2006) seem very attractive.

4.8 Limitations, Future Research and Implications for Management

Although this research demonstrates the usefulness of the network competence and network capability scales in emerging economy environments, its ability to draw conclusions regarding the Business-to-Business population in these markets is limited by its exploratory nature. In particular, this study is based on a cross-sectional research design in an attempt to observe the behaviour of the network competence and network capability scales, and possibly to enhance generalisation of the results. It remains a snapshot which limits its ability to consider causality and therefore no causality is claimed. A longitudinal design might provide future researchers with better insights, as such designs are generally more powerful (Cooper and Schindler, 2006) for testing for causal relationships. Another notable limitation of the study relates to the non-probability sample. Although considered appropriate for observing the initial performance of the two scales in question, it implies that the hypothesised relationship cannot be generalised to all Business-to-Business firms in South Africa. Future studies may seek to ensure random sampling. In addition, and although much has been done to consider discriminate validity, the manner in which both scales were used suggests that an inference error because of multi-collinearity may be problematic. According to Grewal, Cote and Baumgartner (2004) multi-collinearity is unlikely if Fornell and Larcker's criterion is satisfied. Thus, it is recommended that this approach be considered in future studies. A final limitation of the study is associated with the use of perceived measures of firm performance, which may result in common method bias in the responses. Future studies may

overcome this problem by using objective measures of performance and should follow the Lindell and Whitney (2001) procedure to test for it.

Future research should seek to construct a more robust model for considering the causal relationship between network capabilities and organisational performance. Specifically, the drivers of relationship quality in a network context should contribute to our understanding of the linkages between network relationships and network performance. This focus may also bring the ideas associated with network value and/or relationship value under investigation.

Based on these results it is recommend that firms may improve their performance in a business network context through enhanced managerial attention to (a) better coordination between actors in the network, (b) the development of relational skills among actors in the network, (c) increased partner knowledge across firms in the network, and (d) increased quality of inter-firm communications. These dimensions were positively correlated with perceived measures of firm performance and should yield returns on managerial investment. In addition, the network competence and network capability were tested and both exhibit good reliability and construct validity. These scales may be used as the basis for initiatives to measure a firm's ability to manage in complex business networks. Moreover, it is recommend that firms adopt a critical view of their ability to manage and operate in increasingly collaborative network environments.

Chapter 5: The Mediating Effects of Relational Drivers in a Business-to-Business Buyer Network

5.1 Introduction

Research in Business-to-Business (B2B) marketing has benefitted from various modern theories. In particular, the study of business relationships has leaned on social exchange theory since the late eighties. More recently the insights and perspectives offered by network theory sought to advance the understanding of buyer-supplier relationships in complex networks. This shift (Fill and Fill, 2005; Russell-Bennet, McColl-Kennedy and Coote, 2007) from dyadic to more complex relationships in networks currently enjoys considerable research attention – especially from IMP (the Industrial Marketing and Purchasing Group) researchers. Despite this attention the research appears to vary significantly as a wide variety of variables have been used to study relationships and there is little consensus on what is necessary and sufficient to explain such relationships (Brennen, Canning and McDowell, 2007; Anderson and Mittal 2000).

In addition, mounting empirical evidence has led to the formulation of numerous hypotheses regarding critical relationship processes and the role of relationships between market actors (Håkanson, Harrison and Waluszewski, 2004; Sirdeshmukh, Singh and Sabol, 2002). At the same time Rampersad, Quester and Troshani (2010) noted that despite increases in the complexity and prominence of these networks, empirical studies investigating their performance are still sparse. Hence, although various meta-analytical contributions have been made (Geyskens, Steenkamp and Kumar, 1999; Palmatier *et al.*, 2006; Pels, Möller and

Saren, 2009; Rajamma, Zolfagharian and Pelton, 2011), models to explain the variance exhibit considerable variation in their conceptualisation. Nevertheless, in considering the extant literature on Business-to-Business relationships, some issues appear to be foundational:

First, the Quality→Satisfaction→Loyalty→Performance paradigm provides a platform and motivation for considering B2B relationships in general and relationship marketing in particular. For example, Anderson *et al.* (1994) and Jones and Sasser (1995) have demonstrated that customer satisfaction is the key to securing customer loyalty and generating superior long-term financial performance. Hence, quality has a positive effect on satisfaction, and that in turn has a positive effect on performance. Anderson and Sullivan (1993) and Hennig-Thurau and Klee (1997) also showed that satisfaction leads to repeat purchases.

Secondly, as suggested by Morgan and Hunt (1994), commitment and trust are key mediating variables in the study of B2B relationships. Moreover, failing to include them as mediating variables would result in flawed conclusions regarding not only the direct impact of relationship commitment and trust on important outcomes, but also the impact of other antecedents (Cannon and Perreault, 1999). In addition, Olsen (2002) demonstrated that satisfaction as a mediator between quality and repurchase loyalty, was found to be an acceptable representation of the data across four different types of products. Results from Palmatier (2008) suggest that the value generated from inter-firm relationships derives not only from the quality of customer ties (trust, commitment, and relational norms), as is typically modelled, but also from the number and decision-making capability of inter-firm contacts and the interactions among relational drivers.

Thirdly, the evidence on mediation effects between constructs of B2B relationships in emerging markets appears limited (Davis-Sramek *et al.*, 2009; Samiee and Walters, 2003; Workman, Homburg and Jensen, 2003). Also, with the possible exception of contributions from the services marketing literature and the financial services sector as context (Theron and Terblanche, 2010 and Theron *et al.*, 2008), many of the typical social constructs of B2B relationships have not been subjected to analysis under emerging market conditions of South Africa. This gap in emerging market research needs to be filled in order for emerging market researchers to avoid the dangers associated with generalising findings based on developed markets (Burgess and Steenkamp, 2006)

Based on this motivation the study's primary objective is to confirm the Quality→Satisfaction→Loyalty paradigm in a non-financial services emerging market. Secondly, the study expands this notion to include a consideration of context relevant mediation effects between the predictor and outcome variables. More specifically, it considers the mediation effects of Satisfaction, Trust, Commitment, and Information Sharing in a structural model to predict intention to stay in a buyer-supplier relationship. The study employs a focal firm approach in a large buyer network in the South African Computer Aided Design (CAD) industry. Following this section, the chapters offer a review of the literature and construct hypotheses upon which to ground the objectives of the study. Through this operationalisation of the constructs a possible structural model is hypothesised to predict loyalty whilst allowing for mediation effects. The chapter then describes the research methodology reflecting survey data collected from 526 clients of the focal firm. The next section reports the results, and the chapter is concluded with a discussion and suggestions for further research.

5.2 Literature Review

Business-to-Business relationships have been explored from multiple perspectives, but it appears that the social content of business relationships is central to our understanding of these relationships. For example, Fill and Fill (2005:48) argue that “the social structure of a relationship is about social ties between people across different organisations. These ties spread out into a network of personal contacts, some deep, some indirect.” In addition, Ford (2002) observed that various authors rely largely on the seminal work by Morgan and Hunt (1994) to conclude that the essence of relationship marketing is the supplier's creation of commitment and trust between itself and a customer, with the intent of establishing, developing, and maintaining successful relational exchanges. Palmatier (2008) integrates the constructs of social exchange theory and refer to social ties as the *drivers of customer value*. Clearly these contributions not only emphasise the centrality of social constructs in relationships, but also seek to connect it the operational efficiency, and hence, the performance of the relationship. The argument, however, is not limited to the social domain, with Forsgren *et al.* (2005) suggesting that the relationship becomes an important *asset*:

- as a platform for future business transactions and knowledge development, and
- as a generator of knowledge and competence that may be of wider significance for the firm's competitive ability.

The literature also cautions against the limitations of social constructs to explain B2B relationships. Gummesson (1994) referred to a lack of clarity regarding the operational contents of relationship marketing, and Ford *et al.* (2007) note that little work seems to have been undertaken on establishing what the activities are that lead to the creation and

maintenance of a relationship. Moreover Hennig-Thurau and Klee (1997) question the power of satisfaction to affect customer retention, while Möller and Halinen (2000) argue that some of the novelty and generality claims in relationship marketing propositions are inflated.

Despite the validity of some of these counter arguments, Social Exchange Theory occupies a prominent position in explaining B2B relationships. Brennen *et al.* (2007) noted that social exchange theory makes a clear contribution to the understanding of exchange relationships as it shows that factors other than pure economic ones apply to relationships. In particular the role that trust and commitment (factors) play in mediating the satisfaction-loyalty linkage is prominent. This view is supported by Donaldson and O'Toole (2007) who alluded to the notion that social exchange theory views inter-organisational governance in the context of a social structure where firms are interdependent and rely on reciprocation. Trust and equity are key variables in this implied reciprocity. Furthermore, it is proposed (Donaldson and O'Toole, 2007) that the key drivers of social exchange (trust and commitment) moderate the impact of power and determine the perception of fairness in an exchange relationship.

In the context of emerging markets, researchers (Burgess, 2003a; Khanna *et al.*, 2005, Wright *et al.*, 2005) agree that businesses in these markets face unique challenges, and they warrant separate analysis. Gao *et al.* (2007) suggest that although some conventional constructs of marketing may be robust in the relatively homogenous contexts of developed countries, an adjusted approach may be needed to examine these in developing market contexts. This notion was recently supported by Biggemann and Fam (2011) who noted that the majority of today's knowledge of business marketing, including relationship marketing and the work of the IMP group, is grounded on studies conducted in Western countries. Only in the last few

years, have scholars started to question the validity of measures such as trust and commitment to explain business relationships in non-Western contexts.

Firms from emerging economies that have strong networks and well-developed social capital may facilitate cooperation in the development and transfer of knowledge between actors. In considering how relationships and networks affect market exchange in Sub-Saharan Africa, Fafchamps (2001) noted that market exchange arguably plays a larger role than in developed economies, and that the presence of transaction costs naturally leads market participants to enter in long-term trading relationships. The idea of companies working in large networks that create direct and indirect relationships needs further analysis when suppliers from emerging market countries enter the arena. Arguably, emerging markets may provide a new context in which to understand the relative strengths and weaknesses of different perspectives on B2B relationships. This is magnified by the heterogeneity of emerging economies, as there is considerable variation in their economic progress and institutional development (Smirnova, *et al.* 2011). Therefore, considering the mediators in the quality-satisfaction-loyalty relationship framework in an emerging market context contributes to filling this gap in the literature.

5.2.1 Quality, Satisfaction and Loyalty

In proposing his “Satisfaction-Loyalty Model” Olsen (2002:242) argues that marketing researchers accept a theoretical framework where quality is employed as predictor of customer satisfaction. This is based on the notion that if quality is viewed as an evaluation or appraisal of attribute performance, and satisfaction is conceived to be reflective of the impact of performance on an individual’s feelings, then quality can be the predictor of satisfaction.

This is claimed to be consistent with expectancy theory often employed in consumer research. Importantly Olsen's (2002) proposition enjoys empirical support. Anderson *et al.*, (1994) and Grewal, Monroe and Krishnan (1998) confirmed that product quality has a positive effect on satisfaction and that in turn has a positive effect on performance. Furthermore Cater and Cater (2010) suggested that in an exchange relationship a product must first exist, so that a relationship can be built around it. Customers do not have the motivation to continue the relationship merely for the relationship itself (or any of its components) unless they receive a product that meets their standards and add value in some way. Also Ulaga and Eggert (2006) cautions that product quality is merely an entry condition and suppliers must meet quality standards to be included in the supply base. In addition, with ample support from the services marketing literature, Cronin and Taylor (1992), Fornell (1992) and Hallowell (1996) demonstrated the positive effect of service quality on customer satisfaction. These observations allowed for the construction of two primary hypotheses in the context of an emerging market buyer network:

H1: *Perceived product quality is positively related to overall relationship satisfaction*

H2: *Perceived service quality is positive related to overall relationship satisfaction*

The study of the relationship between satisfaction and loyalty has benefitted from a plethora of research efforts, including meta-analytical designs, since the early 1990s, and even recent contributions abound. While Palmatier *et al.* (2006) demonstrated the association between relationship quality and objective performance, Palmatier, Dant and Grewal (2007) reported parallel and equally important roles of commitment–trust and relationship specific investments as immediate precursors to and key drivers of exchange performance. More specifically Lages, Lancastrre and Lages (2008), Cater and Cater (2009 and 2010) and

Palmatier (2008) reported significant positive relationships between satisfaction and attitudinal loyalty. Cater and Cater (2009) showed that satisfaction is positively affected by delivery performance, supplier know-how and personal interaction. This study by Cater and Cater (2009) also included behavioural loyalty (often avoided because of the complexities associated with its measurement) and reported that it is significantly and positively associated with customer satisfaction.

Oliver (1999) argues that loyalty is a dedication by the buyer to remain in a relationship and keep purchasing a product, which suggests the presence of both behavioural and attitudinal components as indicated by Sheth, Sisodia, and Sharma (2000) and Liang and Wang (2006). According to Alejandro *et al.* (2011) there are few studies that have linked the elements of relationship quality to both the behavioural and attitudinal elements of loyalty. This appears consistent with Rauyruen and Miller (2007) who suggests that the three main streams of research on loyalty include behavioural loyalty, attitudinal loyalty and composite loyalty. The current study will focus primarily on attitudinal loyalty because of its exploratory nature in an emerging market context. In terms of attitudinal loyalty, Garbarino and Johnson (1999) find that trust can create benefits for the customers by decreasing transaction costs — ultimately fostering customer loyalty to the relationship. However, trust and satisfaction both are related to behavioural and attitudinal loyalty (Chiou and Droge, 2006). Burton, Sheather and Roberts (2003) find that satisfaction is positively related to repurchase intention and customer loyalty. In a service context, Hennig-Thurau *et al.* (2002) found that satisfaction and commitment are both drivers of loyalty. It is expected that there is a positive relationship between relationship satisfaction and attitudinal loyalty and therefore this study also hypothesise that in the context of an emerging market buyer network:

H3: *Relationship satisfaction is positively related to attitudinal loyalty*

The preceding sections cited studies that, in addition to the quality→satisfaction→loyalty→performance framework, included constructs (notably trust and commitment) that mediate the relationships between satisfaction and loyalty. As noted by Ford (2002), many of these studies rely appropriately on the landmark contributions by Anderson, Narus and Narayandas (2009), Anderson and Weitz (1992), Garbarino and Johnston (1999), Geyskens, Steenkamp, Sheer and Kumar (1996), Moorman, Zaltman and Deshpande (1992) Morgan and Hunt (1994), Reinartz and Kumar (2000). This trend is also notable in more recent contributions by Alejandro *et al.* (2011), Aurier and N'Goala (2010), Cater and Cater (2009, 2010), Lages *et al.*, (2008), Palmatier (2008), Palmatier *et al.* (2006, 2007, 2008) and Rajamma, Zolfagharian and Pelton (2011). Therefore, in this chapter the mediating constructs are first operationalised before a complete conceptual model for the purposes of the empirical investigation is offered. In addition, consistent with Palmatier *et al.* (2008), the mediators are referred to as relational drivers.

5.2.2 Mediating relational drivers

5.2.2.1 Trust

Studies since the early 1990s on inter-organisational relationships have consistently confirmed the importance of trust in business relationships (Seppänen, Blomqvist and Sundqvist, 2007). According to Palmatier *et al.* (2006) trust is a key construct because it is the cornerstone of the strategic partnership and relationship development process (Moorman, Deshpandé, and Zaltman, 1993; Morgan and Hunt, 1994), and it is widely accepted that trust plays a central role in relationship performance (Dwyer, Schurr and Oh, 1987; Morgan and

Hunt, 1994). Sin *et al.* (2006) conceptualize trust as the component of a business relationship that determines the level to which each party feels that they can rely on the integrity of the promise offered by the other party (see chapter 1). Similarly Doney, Cannon, and Mullen (1998:604) define trust as the “willingness to rely on another party and to take action in circumstances where such actions make one vulnerable to the other party”. Morgan and Hunt (1994) postulate that trust exists when one party have confidence in an exchange partner's reliability and integrity. Thus, trust may be viewed as an essential ingredient in the creation, development, and maintenance of long-term relationships between buyers and suppliers (Anderson *et al.*, 2009; Ganesan, 1994).

In addition, and consistent with the Morgan and Hunt (1994), Blois (1996) proposes that trust leads to commitment in two ways:

- First, it is crucial for the development of relationship efficiency. For example, it serves as a substitute for contractual agreements and increases interaction efficiency, thus decreasing transaction costs. This increase of relationship efficiency entails an increased net benefit for the customer (as well as for the supplier), which in turn fosters the cognitive commitment of the customer to the relationship.
- Second, trust addresses central social needs of the customer, the fulfilment of which leads to an affective commitment to the relationship.

Notably, some authors (Medlin, Aurifeille, and Quester, 2002; Seppänen *et al.*, 2007) argue that the research on trust has generally shifted from a level of analysis of individuals to organisations. By contrast Mouzas, Henneberg and Naudé, (2007) showed that trust appears to be more applicable at the level of inter-personal relationships than to inter-organizational relationships. Moreover, Pardo *et al.* (2006) noted that it is possible that in key accounts value can still be delivered in a long-term “transactional” mode (i.e. a succession of

transactional episodes or repeated transactions) and a real relationship based on trust and commitment may not exist. Also Zaheer and Bell (2005) reported that at an inter-firm level, network closure and the consequent trust will allow for greater relation-specific investments to be made, and reduce costs involved in monitoring exchange partners. These observations lead Rampersad *et al.*, (2010) and McEvily, Perrone and Zaheer (2003) to surmise that despite the attention that trust receives, especially in the field of marketing, it remains under-explored empirically at the network level of analysis. This provides further motivation for the inclusion of trust in the current study as extant studies focusing predominantly on organisational or even individual levels of analysis with a single informant.

Despite the shifts in trust research, even recent exchange relationship studies and inter-organisational studies point to the mediating role of trust. Aurier and N'Goala (2010) not only reported that trust directly influences service usage and cross-buying, and that is critical for service relationship development and company profits, but they also observed that trust and relationship commitment mediate the entire impact of satisfaction which appears as a necessary but not sufficient condition for relationship maintenance and development. Cater and Cater (2010) showed that in general "social" dimensions such as cooperation and trust have a much greater influence on commitment than its "technical" dimensions such as knowledge transfers and adaptation. Specifically it was also shown that trust positively influences affective, normative and calculative commitment. Palmatier (2008) also reported that sellers of industrial products and their clients in North America indicated that the value generated from inter-firm relationships comes partly from the quality of customer ties - including trust. Moreover, Palmatier *et al.* (2008) confirmed that both trust in the salesperson and the exchange inefficiency mediate the effect of relationship marketing on the firm's financial performance. Considering B2B relationships in the financial sector of South Africa,

Theron *et al.* (2008) reported significant positive relationships between satisfaction and trust, and between trust and loyalty. Hence it is hypothesised that in the context of an emerging market buyer network:

H4: *Relationship satisfaction is positively related to trust*

H5: *Trust is positively related to attitudinal loyalty*

5.2.2.2 *Commitment*

Commitment has been acknowledged in the relationship marketing literature to be an integral part of any business relationship. Relationship commitment is defined as the “desire to develop a stable relationship, a willingness to make short-term sacrifices to maintain the relationship, and a confidence in the stability of the relationship” (Anderson and Weitz, 1992:19). Thus, commitment is essential for the development of long-term relationships (Anderson *et al.*, 2009; Kumar, Scheer, and Steenkamp, 1995), and it is an important indicator of and relationship performance (Roberts, Varki, and Brodie, 2003). Moreover, relationship commitment is a means for differentiating successful relationships from unsuccessful ones (Morgan and Hunt, 1994). Suppliers in a committed relationship gain greater access to market information, which enables them to better select their customers (Anderson and Weitz, 1992), and similarly buyers in a relationship require relevant up to date market and product information, better choice, and order/payment terms (Smith *et al.*, 1999). Because both parties receive new benefits from each other, each has a stronger motivation to build, maintain and develop the relationship through renewed committed efforts. Thus, strong relationships are built on the foundation of mutual commitment. Moreover, Aurier and N’Goala (2010) reported that relationship commitment enhances retention and exclusivity and together with trust it mediates the impact of satisfaction. Cater and Cater (2010) not only

reported that cooperation and trust positively influence affective and normative commitment, but showed that negative calculative commitment positively influences behavioural loyalty. Similar to their findings on trust, Theron *et al.* (2008) also reported that satisfaction is significantly positively associated with commitment and in turn commitment is significantly positively associated with loyalty. Therefore, it is theorized that commitment is a key driver of customer value in a B2B relationship and the higher the level of commitment between buyer and seller, the greater the probability for loyalty. Hence it is hypothesised that:

H6: *Trust is positively related to commitment*

H7: *Relationship satisfaction is positively related commitment*

H8: *Commitment is positively related to attitudinal loyalty*

5.2.2.3 *Information Sharing*

The operationalisation of information sharing is complex because of its proximity to “communication” (Batt and Purchase, 2004; Grönroos, 1996; Homburg, Müller and Klarmann, 2010; Sin *et al.* 2005) and “knowledge” (Dyer and Singh, 1998; Hansen, 1999; Johnson, Sohi and Grewal, 2004). In addition, it is used in multiple theoretical approaches. Möller and Halinen (1999) suggested that studies that employed social exchange theory to explain exchange relationships have produced corroborative evidence on the importance of information sharing to perceived satisfaction. Also, studies that mostly employ network theory (Walter and Gemünden, 2000) often assume that marketing-oriented boundary spanners need elaborate network knowledge in order to be effective. This knowledge includes essential information regarding the needs, resources, strategies, structures, bonds, and alternatives of an interacting supplier and customer including relevant third parties.

Moreover, Information has been demonstrated to have both mediation (Anderson and Narus, 1990; Borgatti and Cross, 2003; Denize and Young, 2007; Dyer and Singh, 1998) and moderation (Homburg *et al.*, 2010; Wagner, Eggert and Lindemann, 2010) effects in exchange relationships. Hence information influences and is influenced by relational factors, including the motivations of the entity participating in the exchange, the norms of exchange that have developed and the more general nature of the relationships (Hallén, Johanson, and Seyed-Mahamed, 1991).

Information exchange and trust are embedded in and emerge from their interaction with each other (Denize and Young, 2007). They create and are created by each other, suggesting that the mutual exchange of information is at the heart of this evolutionary process (Ford *et al.*, 2003). The type of information, the way information is transformed, the medium by which it is exchanged, and the transfer of that information mediates the relationship between trust and relational outcomes (Cohen, 2008; Denize and Young 2007; Jayachandran *et al.* 2005; Souchon, Cadogan, Procter and Dewsnap, 2004). Also, Bonner and Walker (2004), Rowley (2004) and Yli-Renko and Janakiraman (2008) observed that embeddedness encourages collaboration and the exchange of rich and complex information. Shared information generates a deeper understanding of customers' problems and needs. Simply, higher levels of embeddedness are associated with higher levels of information sharing. It is therefore conceivable that it is the embeddedness, and the associated higher levels of information sharing, that may discourage customers from leaving the relationship. Hence, it is expected that information sharing mediates the relationship between trust, commitment, cooperation and loyalty and therefore it is hypothesised that in the context of an emerging market buyer network:

H9: *Relationship satisfaction is positively related to information sharing*

H10: *Information sharing is positively related to attitudinal loyalty*

Furthermore, Siguaw, Simpson and Baker (1998) reported that information sharing is associated with increased commitment in the relationship, while Child *et al.*, (2005), Denize and Young (2007), and Kanagaretnam, *et al.*, (2010) demonstrate that trust drives information sharing. Hence, it is hypothesised that:

H11: *Information sharing is positively related to commitment*

H12: *Trust is positively related to information sharing*

The hypothesised relationships and the corresponding constructs are presented in a conceptual model in figure 4.1. The model depicts product and service quality as antecedents of relationship satisfaction. In turn relationship satisfaction is theorised to mediate the quality to loyalty link, while trust, commitment and information sharing mediate the path between relationship satisfaction and attitudinal loyalty. Consistent with the literature (Morgan and Hunt, 1994) the model (figure 4.1) also depicts the relationship between trust and commitment. Moreover, as suggested in the hypotheses a similar relationship between trust and information sharing is shown in the model, and in turn information sharing is proposed to be related to commitment. The inclusion of constructs was based on prevailing literature as described in the preceding section as well as interviews conducted during the qualitative phase of the study, as described below.

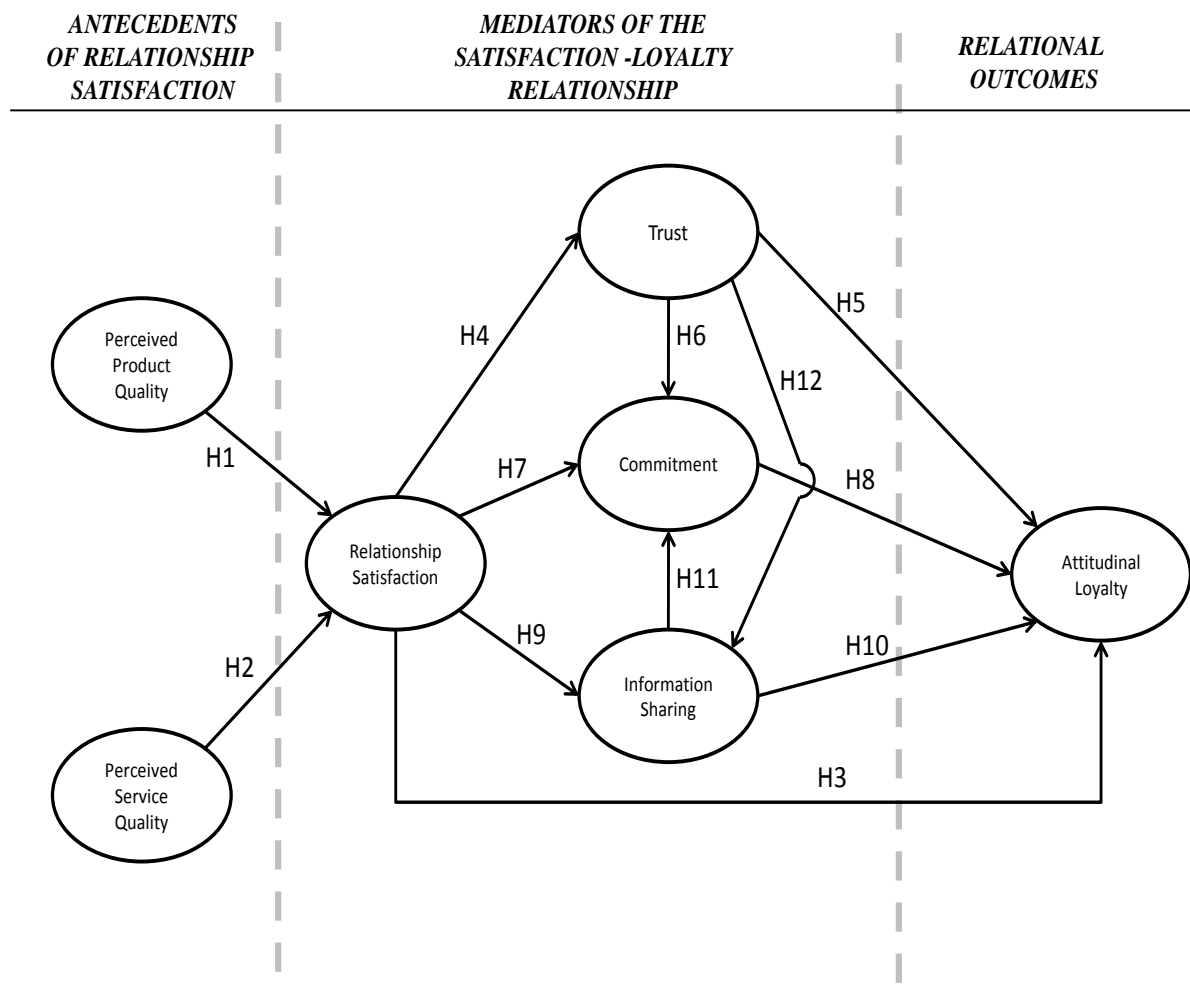


Figure 5.1: Conceptual model of mediator effects in the satisfaction-loyalty relationship

5.3 Method

5.3.1 Data collection

This research employed a focal firm approach to obtain access to a network of buyers in the Computer Aided Design (CAD) industry of South Africa. The focal firm is the largest supplier of CAD software in South Africa and its client base covers South Africa as well as most other countries in the Southern African region. First interviews with three senior managers in the focal firm (including the Marketing Director) were conducted. This was followed by a focus group discussion with seven clients of the focal firm. The objective of

this qualitative research was (a) to gain a better understanding of the relationships, including the underlying drivers (constructs) of those relationships, and (b) to get some insights into how purchasing and repurchasing decisions are typically made in this market. This qualitative research revealed that the relationships are mostly collaborative, but with occasional variability in that some relationships appear more interimistic (Lambe, Spekman and Hunt: 2000). Moreover it appears that purchasing decisions are mostly team driven and hence it was decided to employ a multi-informant approach for the collection of survey data. Without exception, all the buyer respondents voiced very strong opinions regarding the importance of the product and service of a supplier before any relationship can be established. Based on prevailing literature and the insights from the qualitative study a measurement instrument was developed and data was collected via two waves in which the survey was administered to 3112 active clients (clients that had interacted with the firm over the previous 36 months). From this a total of 526 (17.5%) responses, representing 255 firms were suitable for further analysis. Therefore, for some firms the study relied on a single respondent.

5.3.2 Measurement

The questionnaire (summarised in Appendix D) collected demographic information and used multi-item scales to measure each of the seven constructs. All constructs employed 7 point Likert-type scales with “1 = strongly disagree” and “7 = strongly agree” and negatively stated questions were reverse scored. The measurement instrument consisted of 24 items to measure each of the following latent variables: Perceived Product Quality – 3 items based on Matzler (2004), Chakraborty *et al.* (2007) and Zeelenberg and Pieters (2004); Perceived Service Quality – 6 items based on Busacacca and Padula (2005) and Matzler (2004); Relationships Satisfaction – 3 items based on Larges *et al.* (2008); Trust – 3 items based on Morgan and Hunt (1994); Commitment – 3 items based on Palmatier (2008); Loyalty - 3

items based on Palmatier (2008); Information sharing – 3 items based on Denize and Young (2007).

5.3.2 Sample

From an original database of 5000 clients, the focal company assisted in identifying 3112 clients that had exhibited account activity during the previous 36 months. These clients were labelled as active users of the CAD systems and were subsequently included in the sample. Table 5.1 shows that the sample is overwhelmingly male (84%) and almost 70% are under 45 years of age and (as expected), while all the respondents are from the engineering domain. Engineering firms and their business partners are the obvious users of CAD systems and this reflects the main market focus of the focal firm.

Table 5.1: Key descriptive statistics of the sample

N		526
Gender	<i>Male</i>	84%
	<i>Female</i>	16%
Average age		40 years
Age distribution	<i>18 - 30 yrs</i>	28%
	<i>31 - 45 yrs</i>	41%
	<i>46 - 55 yrs</i>	21%
	<i>> 55 yrs</i>	10%
Industry	<i>Infrastructure Engineering</i>	170 (32%)
	<i>Multi Industry Applications</i>	124 (26%)
	<i>Civil Engineering</i>	81 (15%)
	<i>Municipal/Local Government</i>	70 (13%)
	<i>Structural Engineering</i>	23 (4%)
	<i>Land Surveying</i>	23 (4%)
	<i>Provincial Government</i>	18 (3%)
	<i>Project Management</i>	17 (3%)
Education	<i>Undergraduate Degree</i>	318 (60%)
	<i>Technical Qualification</i>	126 (24%)
	<i>Post Graduate Degree</i>	82 (16%)

5.4 Results

First, multivariate normality using both descriptive and inferential statistical methods was tested. It was found that each construct exhibits non-normality and hence the sample data exhibits non-normality. Therefore, it was decided to employ partial least squares (Bollen, 1989; Chin, 1998; Diamantopoulos and Winklhofer, 2001; Henseler, Ringle and Sinkovics, 2009; Tenenhaus, *et al.*, 2005) using SmartPLS 2.0 (Ringle, Wende and Will, 2005) to analyse the data. Partial least squares (PLS) was preferred as it is less sensitive to distributional abnormality (Vinci *et al.* 2010).

5.4.1 Measurement Model

All items loaded on to the corresponding latent variable structure and all items exhibit loadings greater than 0.72. With the exception of the information sharing construct all constructs exhibit adequate internal consistency reliability as the Chronbach alpha coefficients exceed the 0.7 (table 5.2) benchmark.

Table 5.2: Reliability indicators of the measurement model

	AVE	Composite Reliability	Cronbach Alpha	R ²
Commitment	0.76	0.87	0.78	0.76
Information Sharing	0.55	0.76	0.57	0.25
Attitudinal Loyalty	0.59	0.81	0.71	0.65
Perceived Product Quality	0.65	0.85	0.72	-
Relationship Satisfaction	0.50	0.79	0.70	0.53
Perceived Service Quality	0.56	0.88	0.83	-
Trust	0.76	0.89	0.81	0.76

* AVE = Average Variance Extracted

The Chronbach alpha coefficient for the information sharing ($\alpha = 0.56$) construct did not meet the 0.7 criterion. As this study is of a non-confirmatory nature it was decided to retain this construct in order to facilitate the remaining analysis. The measurement model also exhibited

significant convergent validity as the cross-loading matrix exhibits (Table 5.3) no cross loading that exceed the with-in row and column loadings.

Discriminant validity is considered in two steps. First, the Fornell and Larcker (1981) criterion is used to test whether the square root of a construct's AVE is higher than the correlations between it and any other constructs within the model. Second, the factor loading of an item on its associated construct should be greater than the loading of another non-construct item on that construct.

Table 5.3: Cross-loadings of Items

	Commitment (CI11- 3)	Information Sharing (IS1-3)	Attitudinal Loyalty (LO1-3)	Perceived Product Quality (PS1-3)	Relationship Satisfaction (RS1-4)	Perceived Service Quality (SS2-6)	Trust (TR1-3)
CT1	0.84	0.31	0.55	0.57	0.50	0.40	0.60
CT2	0.78	0.29	0.47	0.45	0.56	0.44	0.75
CT3	0.87	0.25	0.43	0.57	0.61	0.49	0.72
IS1	0.07	0.66	0.08	0.08	0.11	0.02	0.06
IS2	0.19	0.82	0.20	0.34	0.24	0.22	0.20
IS3	0.38	0.92	0.32	0.57	0.39	0.32	0.38
LO1	0.35	0.19	0.62	0.44	0.33	0.23	0.32
LO2	0.55	0.22	0.78	0.55	0.45	0.37	0.53
LO3	0.68	0.28	0.87	0.52	0.48	0.38	0.58
PS1	0.58	0.24	0.58	0.90	0.49	0.40	0.56
PS2	0.56	0.24	0.52	0.89	0.48	0.38	0.54
PS3	0.39	0.57	0.32	0.61	0.41	0.34	0.39
RS1	0.39	0.18	0.37	0.30	0.69	0.68	0.39
RS2	0.57	0.26	0.44	0.46	0.80	0.38	0.75
RS3	0.27	0.31	0.21	0.31	0.78	0.42	0.31
SS2	0.40	0.19	0.37	0.31	0.61	0.71	0.40
SS3	0.37	0.19	0.28	0.32	0.43	0.76	0.39
SS4	0.49	0.21	0.40	0.34	0.44	0.81	0.42
SS5	0.39	0.19	0.32	0.35	0.41	0.83	0.40
SS6	0.43	0.22	0.33	0.38	0.45	0.85	0.42
TR1	0.70	0.35	0.56	0.57	0.61	0.46	0.90
TR2	0.62	0.25	0.40	0.57	0.61	0.49	0.82
TR3	0.65	0.27	0.46	0.44	0.59	0.42	0.84

Table 5.4 shows the result of this analysis. Marginal evidence of multi-colinearity may be observed between attitudinal loyalty and commitment as well as between relationship

satisfaction and commitment. The rest of the measurement model exhibit good discriminant validity and meet the Fornell and Larcker (1981) criteria.

Table 5.4: Latent variable correlation matrix and descriptive statistics

	Mean	SD	1	2	3	4	6	7	8
1. Commitment	5.68	0.89	0.88						
2. Information Sharing	3.56	1.05	0.34	0.74					
3. Attitudinal Loyalty	5.45	0.93	0.80	0.31	0.77*				
4. Perceived Product Quality	5.29	0.91	0.64	0.53	0.76	0.81			
6. Relationship Satisfaction	5.19	0.87	0.75	0.38	0.56	0.58	0.71*		
7. Perceived Service Quality	5.77	0.89	0.54	0.31	0.44	0.46	0.66	0.75	
8. Trust	5.82	0.85	0.87	0.35	0.65	0.63	0.87	0.54	0.87

*Square Root of AVE on diagonal. * Indicates instances of co-linearity.*

5.4.2 Structural Model

All the hypothesised paths between latent variables were estimated to ascertain mediation effects and the predictive power of the model. The results of the first analysis are reported in Table 5.5.

Table 5.5: Results of PLS path analysis

	Hypothesised Relationship	β	t-statistic	Result
H1:	Perceived Product Quality → Relationship Satisfaction	0.342	7.985	Significant
H2:	Perceived Service Quality → Relationship Satisfaction	0.505	12.660	Significant
H3:	Relationship Satisfaction → Attitudinal Loyalty	0.016	0.282	Not significant
H4:	Relationship Satisfaction → Trust	0.876	59.223	Significant
H5:	Trust → Attitudinal loyalty	-0.214	1.889	Not significant
H6:	Trust → Commitment	0.904	17.770	Significant
H7:	Relationship Satisfaction → Commitment	-0.056	0.984	Not significant
H8:	Commitment → Attitudinal loyalty	0.925	12.303	Significant
H9:	Relationship Satisfaction → Information Sharing	0.182	2.074	Significant
H10:	Information Sharing → Attitudinal Loyalty	0.055	2.126	Significant
H11:	Information Sharing → Commitment	0.050	2.460	Significant
H12:	Trust → Information Sharing	0.094	1.106	Not significant

$\rho < 0.05$ is considered significant

From Table 5.5 it is clear that product and service quality drives relationship satisfaction among buyers in this network – hence, H1 and H2 could not be rejected. Moreover, these two constructs accounted for 53% of the variance in relationship satisfaction. Interestingly, (and

counter to expectations), the direct relationship between relationship satisfaction and attitudinal loyalty was not supported by the data and therefore H3 is rejected. This result hinted at the presence of a mediation effect.

Subsequently, the path between relationship satisfaction and trust was significant and H4 is supported. However, trust did not exhibit a significant direct relationship with attitudinal loyalty and H5 is not supported. The relationship between trust and commitment was found to be significant as well as the relationship between commitment and attitudinal loyalty. This observation results in support for H6 and H8. In addition, H7 is rejected because of an insignificant relationship between relationship satisfaction and commitment.

Also, the data exhibit a significant (Table 5.5) relationship between relationship satisfaction and information sharing and between information sharing and attitudinal loyalty. Therefore H9 and H10 are supported. The net effect of these observations is that the data suggests that the link between relationship satisfaction and attitudinal loyalty is fully mediated by the impact of trust, commitment and information sharing. In this trust fully mediates the relationship between relationship satisfaction and commitment, and commitment fully mediates the relationship between trust and attitudinal loyalty.

Furthermore, H11 is supported as the path between Information sharing and commitment was significant, while H12 is rejected because the data does not support a significant path between trust and information sharing. Therefore the results on information sharing indicate that commitment partially mediates the relationship between information sharing and attitudinal loyalty. In addition to these findings it appears that the model exhibit substantial power as it explained 76%, 65%, and 76% and of the variance in commitment, attitudinal

loyalty and trust respectively. Notably, the model is much weaker in explaining the amount of variance ($R^2 = 0.25$) in the information sharing construct.

5.5 Discussion

The Quality→Satisfaction→Loyalty paradigm is a core element of modern marketing reasoning and this research confirms its applicability in an emerging market setting. This theoretical platform was subjected to further analysis as prevailing literature suggested the relationship between achieving buyer satisfaction and buyer loyalty is subject to mediation effects. From this study a revised model (Figure 4.2) to demonstrate the observed relationships are proposed.

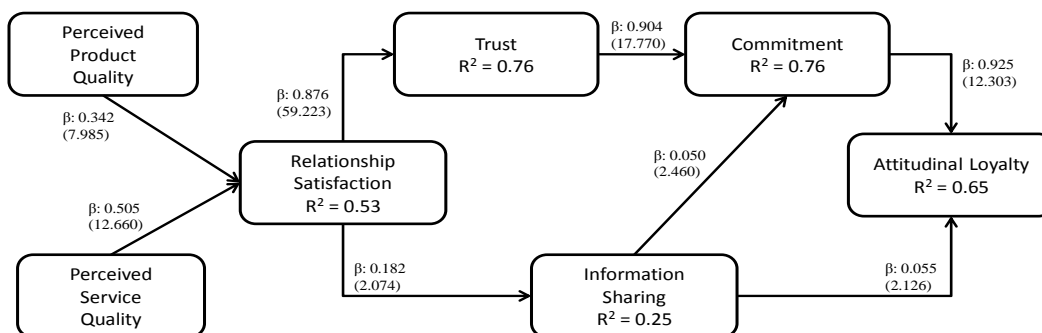


Figure 5.2: Revised Quality-Satisfaction-Loyalty model

The results confirmed that the perceived quality of products and services drives relationship satisfaction (Olsen, 2002; Anderson, *et al.*, 1994; Grewal *et al.*, 1998) as it explained more than 50% of the variance in satisfaction. This finding is consistent with the observations made during the qualitative phase of the research and underlines the importance of products/services in industrial markets. One participant in the focus group framed it rather clearly: “....*we simply are not interested in a relationship with a supplier of substandard products....the market is just too competitive for that*”. However, caution against the over generalisation of the result is suggested as the research is limited to an engineering (and related industries) market. It is conceivable, but rather unlikely, that a different orientation might be found in other industries.

The observed relationship between satisfaction and attitudinal loyalty is fully mediated by trust and commitment. Moreover, the results suggest that relationship satisfaction drives trust, which in turn drives commitment. Then commitment drives attitudinal loyalty. This finding confirms the mediation power of trust and commitment as suggested by many authors (Alejandro *et al.*, 2011; Anderson and Narus, 1990; Aurier and N’Goala, 2010; Cater and Cater, 2010; Kumar, *et al.*, 1995; Morgan and Hunt, 1994; Palmatier *et al.*, 2008; Rajamma *et al.*, 2011). In particular the findings regarding the mediation effect of trust and commitment demonstrated the universality of the phenomena as these effects were observed in an emerging market context. However, the results also show support for information sharing as a mediator in the relationship between satisfaction and concurs with the findings of Anderson and Narus (1990); Borgatti and Cross (2003); Denize and Young (2007); Dyer and Singh (1998). Moreover, the research showed that commitment partially mediates the relationship between information sharing and attitudinal loyalty. The mediation effects of information sharing is however rather small ($\beta=0.055$ for information sharing to attitudinal loyalty, and

$\beta=0.050$ for information sharing to commitment), but significant in the proposed model.

Again the study cautions against its generalisation. However, despite its small effect, the impact of information sharing on attitudinal loyalty is conceivable. As buyers receive more information about products, future developments etc., they become more familiar with the supplier and/or feel more at ease with the abilities of the supplier, and as a result has more reason to remain in the relationship.

5.6 Limitations and Future Research

The context specificity of the measurement dictated by a focal firm approach limits the generalisability of these results. The high tech environment of CAD systems and the associated engineering applications may well represent a particular conceptualisation of Business-to-Business relationships. Future studies might employ cross-sectional design methodologies which could improve its ability to generalise the results. Because of the heterogeneity commonly found in emerging markets in this study no test for common method bias was done. Often typical causes of common method bias such as consistency and social desirability (Podsakoff, MacKenzie, Lee, and Podsakoff, 2003) is minimal in highly heterogeneous samples. However it is acknowledge that these results may well be inflated because of common method bias and it is therefore suggested that future studies employ the procedure suggested by Lindell and Whitney, (2001) and Liang, Saraf, Hu and Xue (2007) to test for common method bias. Moreover, the results do exhibit some (though very limited) multi co-linearity. Developing more robust measures for satisfaction and loyalty in future studies should resolve this problem. Moreover, a random sample based on a cross-sectional design may also yield better multivariate normality which can facilitate the use of robust covariance-based structural equation modelling analysis.

The mediation constructs that were of particular importance in a South African context and which enjoys literature support from prevailing South African literature were included in this study. These may be expanded upon. While Information Sharing was emphasised in particular during the qualitative phase of the research, other constructs such as Cooperation and Adaptation (Cater and Cater, 2010), Relationship Specific Investments (Palmatier *et al.*, 2007), Relational Embeddedness (Rindfleisch and Moorman 2001) may well be relevant, even in an emerging market context. In addition, by considering Behavioural Loyalty (Cater and Cater, 2010) future studies may obtain a more complete picture of the loyalty construct. Finally, from the literature it is clear that many of the constructs employed to explain Business-to-Business relationships share conceptualisation. Future research may assist in isolating these constructs more distinctly, with obvious benefits for constructing parsimonious models.

Chapter 6: Conclusions, Recommendations and Future Research

6.1 Introduction

The challenges facing Business-to-Business (B2B) marketers and researchers are, by nature, complex. On the one hand, the competitive nature of the modern marketplace has encouraged firms to move away from transaction-oriented marketing strategies and to move towards relationship-oriented marketing strategies for enhanced performance (Winklhofer *et al.*, 2006). Thus, firms will seek to optimise the dyad and exchanges that harbour these relationships. On the other hand, firms can engage in a multitude of relationships with various stakeholder groups and be part of a network of direct and indirect relationships based on actors, resources and activities (Ford *et al.*, 2004). For researchers, this duality of perspectives (figure 6.1) is problematic as it suggests that multiple levels of analysis may be needed in order to gain a complete understanding of the phenomena that impact Business-to-Business activity.

Not only are dyadic relationships and network relationships influenced by similar environmental factors (micro, macro and market), but dyads and networks also interact with each other. The dyadic relationships are embedded in the network, influencing the nature and growth of the network. In turn, the nature of the network may influence how dyads are developed – the network effect. Therefore, both perspectives have been used as a research platform, but a notable scarcity of attempts to integrate these perspectives is obvious in the literature. The reasons for this (such as data collection difficulties, varied units of analysis

that are too complex to model, etc.) are known, but it remains (arguably) imperative that practitioners and researchers seek to acknowledge this interplay in order to develop an overall understanding.

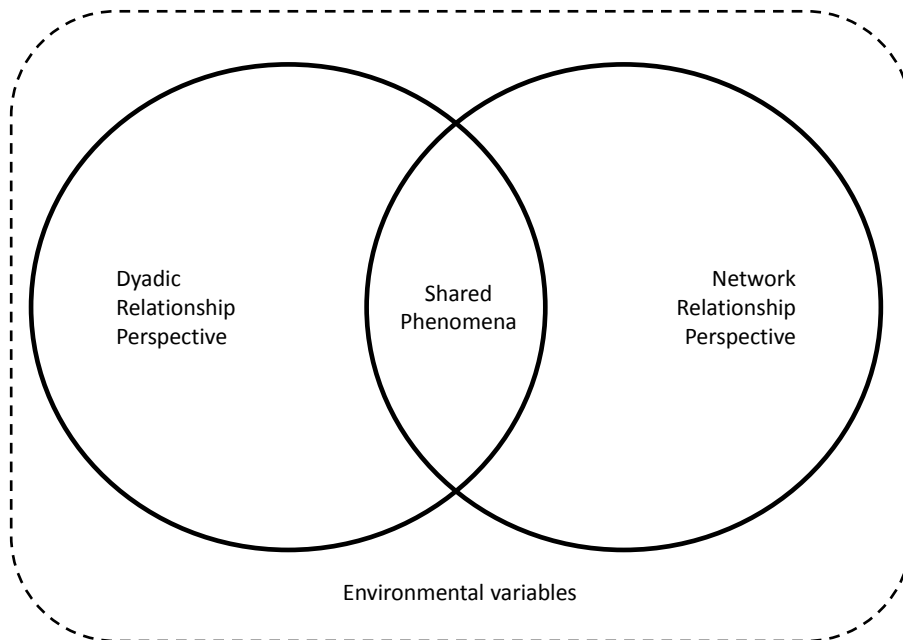


Figure 6.1: The interaction of dyads and networks in business

The current research attempted to adopt elements of both these perspectives in answering key questions:

- Is a relationship orientation positively associated with firm performance under emerging market conditions?
- What are the network competencies and capabilities needed to manage in a network environment? How can these be measured, and are they positively associated with firm performance in an emerging market context?
- Are the mediators and moderators of customer satisfaction with relationships in emerging markets consistent with those observed elsewhere?

In order to answer these questions a research programme (figure 6.2) that spanned five years, and consisting of four published works, was executed to ensure that dyadic and network issues were considered. This approach has yielded a rich diversity of methods and propositions.

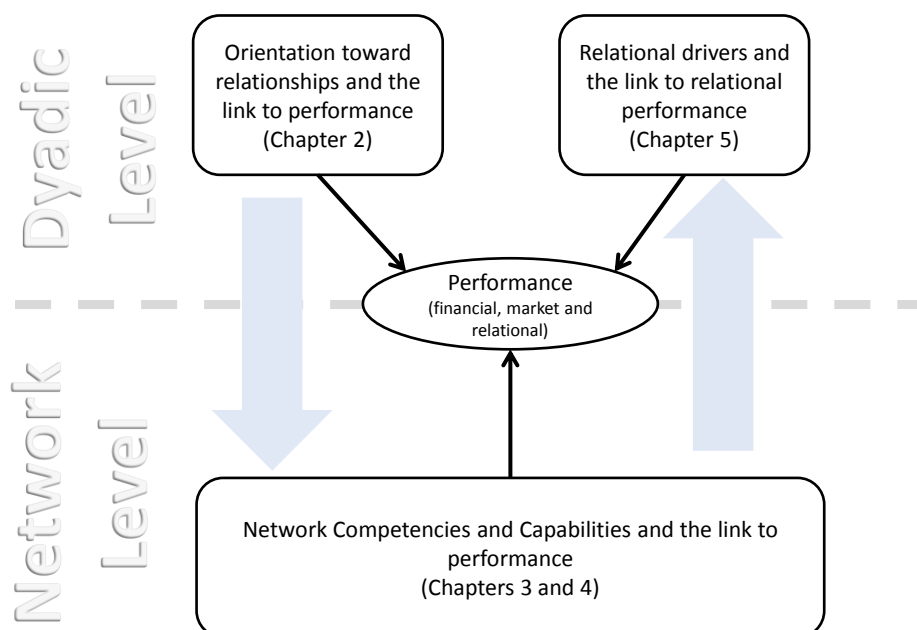


Figure 6.2: Research programme to accommodate both dyadic- and network- level analysis

Such an approach requires that portions of the research (see figure 6.2) are devoted to a firm-level analysis for looking at individual relationships (dyadic) as in chapter five while another portion of the research attempts a network-level consideration presented in chapters 3 and 4.

It is widely acknowledged (Kohli and Jaworski, 1990 and Naver and Slater, 1990) that the strategic orientation a firm adopts often influences not only its performance, but also how it

responds to the environment. Therefore, in the context of this study, the firm's approach to relationships in general (gauged in terms of relationship orientation in chapter 2) is employed as a point of departure to prepare for a closer consideration of dyadic (chapters 3 and 4) and network (chapter 5) relationships. An important distinguishing factor is that all these studies are done under South African conditions □ assumed to be representative of an emerging market.

Emerging economies are assuming an increasingly prominent position in the world economy. This is especially evident from the 2011 World Investment Report (UNCTAD, 2011) which noted the following in connection with emerging economies:

- In 2009 FDI inflows to developing economies rose by 17%, to US\$621 billion (UNCTAD, 2011), with South-, East-, South-East Asia and Oceania accounting for roughly half of those flows.
- Africa recorded the largest percentage increase (27%).
- Inflows to Latin America and the Caribbean continued to grow (up 13%) as did those to West Asia (up 16%).
- The least developed countries (LDCs) attracted a record US\$33 billion worth of inward FDI in 2008.
- The transition economies of South-East Europe and the CIS also posted a new record high, with inflows reaching US\$114 billion.

The growing importance of emerging economies is reflected in an upsurge of business and management research on the topic in recent years. Since the first major overview of the field by Hoskisson *et al.* (2000), numerous publications have appeared that push the frontiers of this research. In addition, Wright *et al.* (2005) argued that for research in this area to flourish and make a lasting contribution there is a need to consider the extent to which theories and methodologies used in mature, developed economies are suited to the unique social, political and economic contexts, as well as to firm characteristics of emerging economies. Emerging economies provide a new context in which to understand the relative strengths and weaknesses of these different perspectives. However, the challenge to the wholesale adoption of developed economy-based theoretical and methodological approaches in emerging economies is magnified by the heterogeneity of emerging economies.

There is considerable variation among emerging economies concerning their progress in economic and institutional development. For example, some former centrally planned economies in Central and Eastern Europe (e.g., Hungary, Poland, Czech Republic and the Baltic states) had made sufficient progress to accede to the European Union in May 2004, while others have been less successful. It is therefore conceivable that theories in management and marketing are not equally effective in driving the research agenda among emerging economies. In the final analysis the contribution of this research is not only to be found in an attempt to consider dyadic relationships and network relationships, but also that they were considered in an emerging market context.

In this chapter the afore-mentioned issues are emphasised and debated based on the structure of the research programme that was followed. It firstly offers the dyadic perspective by

summarising results regarding relationship orientation (chapter 2) and drivers of relationship satisfaction (chapter 5), and debates the underlying usefulness of understanding the notions put forward in this research. Then (secondly), the network perspective is adopted to engage chapter 3 and 4 on network competencies and capabilities via its grounding in resourced-based theory. It meta-analytically compares these results of this research with those of others and builds the arguments for and against developing such resources in an emerging market context. The chapter concludes by underlining the limitations of the research and offers directions for future research.

6.2 Relationships in Business-to-Business marketing

Relationships in business are approached from multiple perspectives (networks, alliances, partnering, customer service, customer retention, etc.). These can be categorised into two distinct streams of analysis with obvious (and less obvious) inter-relationships. On one side there is the strategic perspective that employs the seminal work (such as Kohli and Jaworski, 1990 and Naver and Slater, 1990) on market-orientation to motivate the adoption of some higher order orientation to ensure that the overall “mind-set of the firm” is focused on the market and its dimensions. The second stream appear to focus on dyadic relationships between (in the main) buyers and sellers. This stream focuses on enhancing the quality and value of relationships in business and is concerned with understanding its antecedents, drivers, moderators and mediators. Importantly, both these streams attempt to motivate their importance by demonstrating their association with firm performance.

6.2.1. The strategic orientation perspective on Business-to-Business relationships

Whilst the building blocks of effective relationships at the dyadic level are well documented (Winklhofer *et al.*, 2006), empirical work on what constitutes a relationship orientation or relationship strategy is still vague. According to Sin *et al.* (2005:186), “*the relationship marketing concept can be viewed as a philosophical culture...that puts the buyer-seller relationship at the centre of the firm’s strategic or operational thinking.*” This emphasises the cultural domain of relationship marketing and suggests that the implementation of relationships requires changes in corporate culture and reward systems to reinforce the behaviours that generate trust, mutual goals and adaptation. In contrast, Day (2000:24) listed a relationship orientation which “*must pervade the mind-set, values and norms of the organisation*” as an element of a market-relating capability. Despite the large amount of theoretical writing on relationship orientations, few studies have attempted to measure it in an emerging market context. Moreover, the business literature demonstrates the existence of other types of strategic orientations, including technology orientation (Gatignon and Xuereb, 1997), innovation orientation (Siguaw *et al.*, 2006), learning orientation (Calantone *et al.*, 2002), competitor orientation (Armstrong and Collopy, 1996), customer orientation (Deshpandé *et al.*, 1993) and stakeholder orientation (Berman *et al.*, 1999). The literature also suggests that as markets mature, growth becomes highly dependent on the firm’s ability to innovate while having a deep understanding of markets (see chapter 2). The result is that innovation orientation and market orientation currently receive the bulk of scholarly attention.

Market orientation and innovation orientation, including their relationship with firm performance, are well debated in the prevailing marketing literature. Interestingly,

relationship orientation, as an extension of market orientation, is yet to be subjected to similar investigation. While relationship orientation suggests that firms should invest in building relationships with clients and suppliers in order to generate improved financial performance, innovation orientation proposes that customers will prefer superior and innovative products/services and it supports a learning philosophy. Torn between two shores, the result is often that practitioners are confused as to what the desired orientation for the firm should be. Therefore, chapter 2 (based on Human and Naudé, 2010) considers the relationship of both orientations with firm performance in Business-to-Business markets simultaneously. In particular, it examines the mediating effect of innovation on the relationship orientation-firm performance link. By employing published scales for innovation and relationship orientation, cross-sectional data were collected from 181 Business-to-Business managers in South African firms. Confirmatory factor analysis was used to test for scale reliability and validity, while the hypothesized relationships between constructs were considered through structural equation modelling and partial least squares analysis. Table 6.1 summarises the results of this study.

Table 6.1: Summary of chapter 2 results

Nr	Hypotheses	Result
H1	<i>Relationship orientation (RO) has a positive relationship with firm performance.</i>	Accepted
H2	<i>Innovation orientation (IO) has a positive relationship with firm performance.</i>	Accepted
H3	<i>Innovation orientation mediates the relationship between trust and firm performance.</i>	Accepted
H4	<i>An innovation orientation mediates the relationship between information sharing and firm performance.</i>	Accepted
H6	<i>Innovation orientation mediates the relationship between shared values and firm performance.</i>	Accepted
H8	<i>Innovation orientation mediates the relationship between reciprocity and firm performance.</i>	Accepted
H9	<i>There is a significant difference in firm performance between the strategic archetypes as defined by relationship orientation and innovation orientation.</i>	Accepted

H5 and H7 were excluded from the analysis

The chapter provides valuable insights for measuring these constructs in an emerging market context and suggests a balanced approach to adopting these strategic orientations in Business-to-Business markets. The results suggest that practitioners and researchers should pay attention to both orientations simultaneously, because jointly they are associated with better firm performance.

The results in terms of innovation orientation are consistent with various other studies such as: Atuahene-Gima, 1996; Akman and Yilmaz, 2008; Berthon *et al.*, 2004; De Clercq *et al.*, 2009; Hart and Christensen, 2002; Manu, 1992; Sigauw *et al.* 2006; and Theoharakis and Hooley, 2008. These results are particularly encouraging as innovation orientation is gaining increasing interest from emerging market scholars (De Clercq *et al.*, 2009). However, innovation orientation in itself appears not to be enough. The results of this study also indicated that it needs to be supported by a focus on relationships (relationship orientation) and in particular the mediation effects (hypotheses 3-6) shows the advantages of adopting multiple strategic orientations in Business-to-Business markets.

Relationship orientation has a positive association with firm performance (see hypothesis 1). Similar to innovation orientation, these results also enjoy considerable literature support (Winklhofer, *et al.*, 2006; Lages, *et al.*, 2008; Cayannas, 2004; Hedaa and Ritter 2005; Batt and Purchase, 2004; and Day, 2000). However, as reported in the literature review (chapter 2), the notion of relationship orientation is reliant on the idea of market orientation. Although market orientation's association with firm performance is well demonstrated, the question of how distinct the conceptualisation of relationship orientation is, may well call for more definitive generalisations. In the final analysis, though, a recent study by Kumar *et al.* (2011)

confirmed that market orientation has a positive effect on business performance in both the short and the long run. However, the sustained advantage in business performance from having a market orientation is greater for firms that are early to develop a market orientation. These firms also gain more in sales and profit than firms that are late in developing a market orientation. Firms that adopt a market orientation may also realize additional benefit in the form of a lift in sales and profit due to a carryover effect. Market orientation should have a more pronounced effect on a firm's profit than sales because a market orientation focuses efforts on customer retention rather than on acquisition.

Market orientation, and more specifically its main contributor theory, that of customer orientation, is one of the basic tenets of Relationship Marketing (Andreas and Veronica, 2006). As early as 1982 the selling orientation - customer orientation idea (Saxe and Weitz, 1982), was based on the premise that customer oriented sales people strive to increase customers' long-term satisfaction. Selling oriented sales people were considered to prioritise the achievement of an immediate sale at the expense of customer needs. Subsequent research has shown that the degree of customer orientation indeed has an effect on a firm's relationships with its customers (Clark, 1997; Yavas *et al.*, 2004). Similarly, in this research the exploration of relationship orientation leads into a consideration of relationship marketing at the dyadic level.

6.2.2. The dyadic relationship perspective

Modern firms have come to the realisation that a focus on internal value-adding functions is no longer enough to remain competitive, and they are acutely aware of their reliance on other

firms to provide the value chain activities needed to support their market offering. In short, this implies that without relationships, neither business marketers nor their customers can continue to trade. This phenomenon has attracted scholarly attention across the globe and, in particular, Business-to-Business marketing researchers have recognised the important role of business relationships. In turn this gave rise to the notion of Relationship Marketing, and according to Andreas and Veronica (2006), it has been put forward as a way for firms to develop mutually beneficial and valuable long-term relationships with customers. It is believed to work most effectively when:

- customers are highly involved in the goods or service,
- there is an element of personal interaction, and
- customers are willing to engage in relationship building activities.

Andreas and Veronica (2006) also noted that Relationship Marketing emerged in the 1980s as an alternative to the prevailing view of marketing as a series of transactions, because it was recognised that many exchanges, particularly in the service industry, were relational by nature. The evolution of the field was enhanced by the subsequent focus on relationship quality which can be traced back to 1987 (Athanasopoulou, 2009) and was really cemented as a construct by 1990. Up to 1995, the studies on this issue were limited, but more researchers started analysing this construct from 1995 onwards. This renewed interest led to the development of a sizable stream of research within the relationship marketing area. Arguably, most studies appeared in top tier marketing journals. The earlier studies, up to 1999, appeared mainly in the *Journal of Marketing* and the *Journal of the Academy of Marketing Science*. However, in later studies, from 2000 to 2007, more specialized publications were favoured

such as *Industrial Marketing Management*, *Journal of Business Research* and the *European Journal of Marketing*. Notably, Athanasopoulou (2009) reports that 62.5 per cent of studies appeared in just six journals and that *Industrial Marketing Management* alone published 18.75 per cent of these studies. This is mainly due to the Business-to-Business character of most studies in the relationship quality area. Although, earlier studies focused mainly on industrial products, a recent (since 2003) shift to retail and service orientated studies in specialised journals has been observed.

A key theme in the research on dyadic Business-to-Business relationships developed around the appropriate causal chain that leads to enhanced performance of relationships. Aurier and N'Goala (2010) posit that while service literature essentially investigated the *quality*→*value*→*satisfaction* causal chain (Fornell *et al.*, 1996), relationship marketing literature focused on the *satisfaction*→*trust*→*commitment* causal chain (Morgan and Hunt, 1994; Garbarino and Johnson, 1999). The latter, is also the focus of chapter 5 and it was extended to be the *quality*→*satisfaction*→*loyalty* causal chain, with trust, commitment and information as mediators and moderators. As reported, this conceptualisation is consistent with various prominent studies in the field, including, Olsen (2002), Rauyruen and Miller (2007), Anderson *et al.* (1994), Jones and Sasser (1995), Anderson and Sullivan (1993) and Hennig-Thurau and Klee (1997).

Despite the myriad of conceptualisations and approaches to this phenomenon researchers find themselves some distance from generalising a stable theoretical platform. Yet, securing loyalty via customer satisfaction is often a critical component of many business strategies, because obtaining new customers is perceived as expensive while customer retention is

generally associated with long-term profitability. Thus, chapter 5 (based on Human, Naudé and Botha, 2010) empirically supports the notion that satisfaction leads to loyalty, and this relationship ultimately drives attitudinal loyalty in an emerging market. Consistent with recent findings, it is hypothesized that trust, commitment and information sharing mediates the relationship between satisfaction and attitudinal loyalty. The study employed a focal firm approach to consider a network of buyers in the South African CAD industry. Data were collected from 526 respondents and the empirical model was tested using variance-based structural equation modelling. Table 6.2 summarises the results of this study.

Table 6.2: Summary of chapter 5 results

Nr	Hypotheses	Result
H1	<i>Perceived product quality is positively related to overall relationship satisfaction</i>	Accepted
H2	<i>Perceived service quality is positive related to overall relationship satisfaction</i>	Accepted
H3	<i>Relationship satisfaction is positively related to attitudinal loyalty</i>	Rejected
H4	<i>Relationship satisfaction is positively related to trust</i>	Accepted
H5	<i>Trust is positively related to attitudinal loyalty</i>	Accepted
H6	<i>Trust is positively related to commitment</i>	Accepted
H7	<i>Relationship satisfaction is positively related to commitment</i>	Rejected
H8	<i>Commitment is positively related to attitudinal loyalty</i>	Accepted
H9	<i>Relationship satisfaction is positively related to information sharing</i>	Accepted
H10	<i>Information sharing is positively related to attitudinal loyalty</i>	Accepted
H11	<i>Information sharing is positively related to commitment</i>	Accepted
H12	<i>Trust is positively related to information sharing</i>	Rejected

The results show that the relationship between relationship satisfaction and attitudinal loyalty is fully mediated by trust and commitment. A significant positive association between attitudinal loyalty and information sharing was also observed, while commitment partially mediates the relationships between information sharing and attitudinal loyalty. The findings provide researchers and practitioners with insights into the effective management of buyer-supplier relationships in an emerging market context.

The findings of this study were cross-referenced with 46 similar developed market studies (see Appendix E for a complete list) following an impartial cross-referencing approach suggested by Athanasopoulou (2009), Fisk *et al.* (1993 and 1995) and Tyler and Stanley (1999). Studies from 1987 to 2010 were included, and because Relationships Satisfaction was the predictor variable in the current research, the analysis focused on the consequences of relationship satisfaction. The analysis yielded 106 observations from the 46 articles and seven major consequence categories were isolated (see table 6.3)

Table 6.3: Cross-reference analysis for consequences of relationship satisfaction

Relational Consequences in Developed Markets	% of studies that report the corresponding consequence
Attitudinal loyalty / intention to stay	31.1%
Reciprocal benefits / social	18.9%
Managerial effectiveness	13.2%
Behavioural loyalty / higher sales	12.3%
Interaction satisfaction	9.4%
Positive word-of-mouth	7.5%
Cooperation and relationship specific investments	7.5%

N=106

In support of the findings of chapter 5 in an emerging market context, attitudinal loyalty (31.1%) is the main outcome of relationship satisfaction. Thus, the current study contributed to the literature by demonstrating consistency with developing markets. However, at the same time it points at the limitation of not measuring behavioural loyalty and therefore cannot explain the comparative gap between attitudinal and behavioural loyalty. In addition, the strong support for reciprocal benefits of a social nature also appears consistent with what is typically found in the high context cultures of emerging markets (Wright *et al.*, 2005). More importantly, these findings suggest ample room for comparative studies to isolate similarities or their absence.

6.3 Network competencies and capabilities in Business-to-Business marketing

Few studies have been conducted from a relationship and network perspective that examine the different competencies and capabilities needed to manage (a) within a network and (b) manage the network. As reported in chapters 3 and 4, previous research by Ritter (1999) investigated the impact of organisational antecedents on network capabilities and competencies. In this study it was found that the (a) availability of internal resources, (b) a network orientation in human resource management, (c) the integration of communications structures, and (d) openness of corporate culture between firms, all had a positive impact on network capabilities. However, a review of the existing literature indicates that previous studies have tended to approach capability development in relationships and networks on a general network level and have not related it to the particular situation in emerging markets.

The relationship and network literature has tended to focus on the co-operative aspects of capability development and has stressed the interdependencies between firms as a driving force for creative capability generation. Research by Rosenbröijer (1998) and Gressetvold (2004) has drawn on the network approach to analyse how capability development occurs within the firm. Interaction in relationships may shape the capabilities of a firm. Therefore, capabilities can be understood in terms of how they are recognised and valued by counterparts in a relationship, and how their usefulness and contribution to the network is perceived. Thus, there is a need for further research to explore the interplay between relationships and capability development.

Several studies in the relationship and network literature have attempted to explore the inherent value of, and value creation potential of, relationships (Wilson and Jantrania, 1994; Walter *et al.*, 2001). Some of these researchers focused specifically on the links between relationship “value” and the firm’s capabilities to create value for clients (examples include the work of Möller and Törrönen, 2003). Relationship value is an evolving concept, and as such, it is not easily defined. Value and perceived value have received attention in a variety of schools of thought in the literature, including: consumer behaviour, strategy and industrial marketing. Some researchers define value primarily in monetary terms (Anderson and Narus, 1999). However, other researchers highlight that non-financial advantages and sacrifices are just as important in assessing the value of a relationship. Examples include: social bonds, knowledge inputs, managerial time spent, and capability development. See for example Zaefarain *et al.* (2011).

The strategic nature of relationships between suppliers and customers indicates that it is critical for firms to be able to assess the “value creation” potential of their counterparts. It has been suggested that the value of a supplier to its counterparts may often be evaluated through examining its capabilities, but that these are often based on a combination of several interlinked organisational capabilities that are not easy to assess, as they may, at least partly, be tacit. Thus, it seems important that a supplier is able to demonstrate the value potential of its capabilities within its relationships in order to enable its counterparts to assess its potential contribution to the relationship. Capability developments of suppliers may have an important role within the overall development of value potential in Business-to-Business relationships. Therefore, valuable capabilities and competencies may be developed internally and through relationships with other firms, which in turn feed the buyer-seller relationship itself.

In order to take advantage of identified opportunities, suppliers need to understand the distinct requirements of their current or potential customers and how these should be translated into internal capability development or access to external capabilities across a number of areas, e.g., technological, human, managerial systems and cultural interaction capability. Furthermore, supplier capabilities need to be perceived as valuable by customers, beyond those of network counterparts, in order to enable opportunity enactment in relationships with current customers. Hence, Ritter and Gemünden (2004) have argued that the management of the critical network relationships that form part of, and add value to, a firm's capabilities, and the ability to leverage capabilities in a complex network of companies – or “network competence” – is itself a critical capability. Well established capabilities indicate to others that a firm has the potential to be a strong contributor to knowledge development, creativity and innovation within relationships. Skills, knowledge and resources possessed by the firm may be considered to be meaningless capabilities without the types of capabilities that are considered to make an important contribution in relationships, and that are seen as valuable and distinctive by the other party.

Interaction with another party in a relationship will determine the usefulness of a firm's capabilities and will define the way in which these capabilities develop. In order to create valuable capabilities, a firm must therefore consider how it will be viewed in relationships and how its capabilities will contribute to further knowledge development by combining with the capabilities of the other parties in the relationship. The importance of possessing core capabilities for a firm's ability to take advantage of opportunities has been widely discussed in the Resourced-Based-View of the firm (RBV) literature using various concepts such as

core competencies (Prahalad and Hamel, 1990), core capabilities and rigidities (Leonard-Barton, 1992) and dynamic capabilities (Teece *et al.*, 1997 and 1998).

All these approaches are based on the assumption that the firm operates completely independently. As discussed in chapter 4, this is a myth in reality, and when a network and interaction perspective is adopted, the need for understanding capabilities in networks and relationships (see Ritter, 1999 and Johnsen, 2005) arises. This includes the need to develop an understanding of not only the capabilities resident in firms, but also those present in the relationships between suppliers and customers.

6.3.1 Measuring network competence in buyer-supplier relationships

Managing multiple buyer-seller relationships in Business-to-Business networks demands an understanding of a firm's competence to manage in an interconnected environment. Chapter 3 (based on Human, 2009) reports on an attempt to measure network competence by using the NetCompTest scale in Business-to-Business markets in South Africa. Based on a pilot study refinement, the chapter proposes an adjusted measurement scale and details the results of a second round of measurement conducted amongst 495 Business-to-Business managers in South Africa. The results (table 6.4) established partial support for the use of the NetCompTest scale in a South African context, but the scale needed some refinement. An analysis of variance indicated that some differences in the measurement based on firm and individual characteristics can be observed in the data.

Table: 6.4 Summary of chapter 3 results

Nr	Hypotheses	Result
H1	<i>There is no significant difference in the overall network competence scores produced by the NetCompTest scale based on firm factors in a South African business</i>	Rejected
H2	<i>There is no significant difference in the overall network competence scores produced by the NetCompTest scale based on individual factors in a South African business</i>	Rejected

Chapter 3 assists in theory-building and proposes a refined scale for South African conditions and finds that it is conceivable that a firm's competence for managing in networks is reliant upon (a) the tasks it needs to execute across all relationships, (b) the tasks specific to certain relationships, (c) the special qualifications necessary to execute these tasks, and (d) the social qualifications necessary to execute these tasks.

The results also show statistically significant differences in network competence according to managerial function for two of the latent variables in the network competence scale. Moreover, a statistically significant difference in the Network Competence measurement between younger and older respondents was observed. This result suggests that managers might need to be sensitive to age when assigning managerial responsibilities for network relationships. At the same time, encouraging from a scale development point of view, no differences based on managerial level, ethnicity or gender in the measure of network competence was observed.

6.3.2 Network competence, network capability and firm performance

Growing interest in Business-to-Business networks and the demonstrated linkage between firm performance and collaborative efforts within these networks fuels the continued search for a greater understanding of what is needed to manage organisations in complex business

constellations. Key components of managing in networks, and the focus of chapter 4 (based Human and Naudé, 2009), are the competencies and capabilities required at the firm level in order to engage in meaningful network relationships to enhance performance. Adopting the RBV of a firm, an attempt is made to validate measures of network competence and network capability under South African conditions. Secondly, this study considers the relationship between network competence, network capability and subjective measures of firm performance. The analysis is based on data collected via a multi-informant mail survey of 219 business managers in South Africa. Factor analysis and structural equation modelling were utilised to test a conceptual model based on contemporary literature. Table 6.5 summarises the results of this study.

Table 6.5: Summary of chapter 4 results

Nr	Hypotheses	Result
H1	<i>There is a positive relationship between network competence and network capability.</i>	Accepted
H2	<i>There is a positive relationship between network competence and firm performance.</i>	Rejected
H3	<i>There is a positive relationship between network capability and firm performance</i>	Accepted

The results suggest significant effects between network competence and network capability, and between network capabilities and firm performance, but not between network competence and firm performance. Clearly, network capabilities need to be the focus of managerial attention if a firm seeks to enhance its ability to manage in complex networks. The advantage that may be derived from increased network capability is bound to have a positive effect on performance. Firms with high network capability may be better able to anticipate new preferences, are more aware of competitors' actions, and can develop new value propositions more rapidly. In particular, the potential benefits of network capability to enhance time-to-market processes for new innovations seem very attractive. In addition to

providing greater clarity on relational effects depicted in the model, the study also contributes to the rich debate on network management challenges. Moreover, this study, together with the study reported in chapter 2, is the first attempt at measuring network competence and network capability in South Africa.

In conclusion to both the dyadic and network perspectives it is important to note that the research on dyadic relational issues and that of networks is complemented by the strides made in the field of social capital. This enriches a pure business perspective as authors have devoted a great deal of attention to the effects of social capital on organizations. According to Molina-Morales and Martínez-Fernández (2009), it is frequently argued that cohesive strong-tied networks provide substantial benefits for the firms involved. On the other hand, contexts of geographical proximity such as those in an industrial network include a wide range of experiences in different industries, countries and technological levels. In general, researchers have focused on the richness of the knowledge transmitted, as well as on the existence of certain norms or values to be used as a mechanism with which to control internal exchanges (Uzzi, 1996).

The body of research on social capital includes a number of different perspectives, and finding optimal classification criteria is indeed challenging (Molina-Morales and Martínez-Fernández, 2009). Also, the literature on social capital has considered it to be a multidimensional construct that yields distinctly different information benefits and can contribute in many ways to the creation of new value for an organization. Two particular areas of social capital appear especially relevant to the study of business relationships and complex business networks. The first is concerned with structure and the second with the

nature of the relations or relational ties. Bolino, Turnley, and Bloodgood (2002) pointed out that, while the structural dimension describes the mere existence of connections between employees of the organizations, the relational dimension describes the extent to which there is an affective quality to these connections. From this perspective, social interactions and trust are key dimensions of social capital.

On the other hand, networks are also seen as a geographically proximate group of interconnected firms and associated institutions in a particular field linked by commonalities and complementarities (Porter, 2000). The strategic management literature in particular offers convincing evidence for the existence of networks (or clusters) in a wide variety of industries and has found the successful grouping of firms to be important for understanding patterns of competitive success in many industries and often reports that it has a positive effect on innovation. These arguments are not that distant from those of the Industrial Marketing and Purchasing (IMP) group, as innovation networks also receive significant attention from that corner. Recent research in IMP, strategy and marketing literature has also proposed that networked firms need to combine close and intense relationships with distant or arm's-length relations in order to be able to access international resources (Corò and Grandinetti, 2001; Antonio, 2007; Baraldi *et al.*, 2007; Benson-Rea and Wilson, 2003).

Kogut and Zander (1992) argued that social capital has a positive effect on innovation by means of the increased exchanges and combinations of resources. Beyond a certain point, however, additional increases become detrimental for firms (over-embeddedness effect). Therefore, Molina-Morales and Martínez-Fernández (2009) attempted to associate structure and strength of the ties of the organizations with innovation in the particular context of

territorial agglomerations, where geographical proximity conditions, or determines, social network architecture. It was noted that a curvilinear relationship facilitates the understanding of the problem as well as the search for possible solutions. This relationship between social capital and relationships is therefore complex. From this evidence it is clear that researchers should include social constructs, such as the ones included in this study (chapter 5) to investigate dyadic Business-to-Business relationships. However, caution is required because these constructs are highly dynamic in nature and, although the findings from chapter 5 are consistent with international literature, generalisations are often limited by context.

6.4 Limitations of this research

In this section the limitations of each study (chapters 2-5) are addressed and this is followed by an integrated consideration of limitations that the research programme as a whole encountered. These limitations are not only important for the contextualisation of this particular research, but they also seek to contribute to the work of others by illuminating research challenges in the Business-to-Business field as they manifest themselves in an emerging market context.

Chapter 2

The study in chapter 2 is limited in a number of ways of which the most notable is the absence of a random sample. Because the study had to rely on a non-probability sample, the findings remain of an explorative nature with limited generalizability. Secondly, the use of perceptual measures of performance may bring various limitations, such as common method bias, into consideration. A more robust measure of firm performance (possibly an objective

measure) should enhance the quality of the findings. Finally, other research (Gao *et al.*, 2007; Srinivasan, Lilien and Rangaswamy, 2002; Zhou *et al.*, 2005b) suggests that technology orientation might represent an alternative for a similar study. Therefore, it remains a concern that in general, respondents may easily confuse the definitions of technology and innovation and this may yield a biased response. According to Zhou *et al.* (2005b), an overemphasis on customers could lead to trivial innovations and myopic research and development, which might lower the firm's innovative competence. Consequently, it can be argued that market-oriented firms may risk losing the foresight of innovating creatively in their attempt to serve customers' existing needs (Hamel, 2002). These observations amplify the need for research that attempts to consider multiple strategic orientations. By considering various strategic orientations simultaneously, a combined effect may be observed, such as demonstrated by Berthon *et al.* (2004), Gao *et al.* (2007) and others. This will advance the research questions on strategic orientation to those of a portfolio question and how firms may shift their focus in orientation according to environmental demands, as opposed to which a "singular" strategic orientation will yield the greatest benefit for the firm. More specifically, the measurement model used for relationship orientation in this chapter remains unsatisfactory. Finally, although various authors (Burgess 2003b; Khanna *et al.*, 2005; Klemz *et al.*, 2005; and Wright *et al.*, 2005) caution against the use of developed market scales in emerging markets, the measure for relationship orientation is not robust enough to generalise the findings completely. However, the chapter does not focus on model fit as its primary objective. Rather, it aims to demonstrate the importance of relationship to firm performance in an emerging market Business-to-Business context.

Chapter 3

The contribution of chapter 3 is limited to its specific objectives and some methodological restrictions. Key among these is also the use of a non-probability sampling technique. Even though a perfect random sample for Business-to-Business managers might be very difficult to develop, future studies on network competence should aim to achieve this. A random sample will increase the ability to generalise the findings, and the factors that may or may not impact on the measurement could be isolated with more confidence. In addition, and consistent with the de Klerk and Kroon (2008) study, this study also employs a cross-sectional design. Such a design might increase the ability to generalise findings across various industry and firm types, but it often does not yield the richness of a longitudinal research design. Herein lies a further problematic issue often associated with scale refinement studies, namely that the NetCompTest scale cannot be treated as an “off-the-shelf” tool ready to be used. The scale might need adjustment to the various contexts for which it is intended.

Finally, it also appears that network competence is in need of conceptual refinement. The study cites many areas of questionable conceptualisation and these will have to withstand the test of time as a critical mass of literature in a South African context develops. Notable amongst these are the cited limitations of network theory that needs to be seamlessly integrated with resource-based theory (Baraldi *et al.*, 2007) and its consequent limitations to contribute to competitive strategy. Opening this dialogue and expanding research to include issues such as the linkage between network competence, network capabilities and firm performance may reveal new and interesting insights for researchers, and may better prepare practitioners for formulating and implementing strategy in complex buyer-seller networks.

Chapter 4

Although the research in chapter 4 demonstrates the usefulness of the network competence and network capability scales in emerging economy environments, their ability to draw conclusions regarding the Business-to-Business population in these markets is limited by their exploratory nature. In particular, this study is based on a cross-sectional research design in an attempt to observe the behaviour of the network competence and network capability scales, and possibly to enhance generalisation of the results. It remains a snapshot which limits its ability to consider causality, and therefore no causality is claimed. A longitudinal design might provide future researchers with better insights, because such designs are generally more powerful (Cooper and Schindler, 2006) for testing for causal relationships. Another notable limitation of the study relates to the non-probability sample. Although considered appropriate for observing the initial performance of the two scales in question, it implies that the hypothesised relationship cannot be generalised to all Business-to-Business firms in South Africa. Future studies may seek to ensure random sampling. In addition, and although much has been done to consider discriminate validity, the manner in which both scales were used suggests that an inference error because of multi-collinearity may be problematic. According to Grewal, Cote *et al.* (2004), multi-collinearity is unlikely if Fornell and Larcker's (1981) criterion is satisfied. Thus, it is recommended that this approach be considered in future studies. A final limitation of the study is associated with the use of perceived measures of firm performance, which may result in common method bias in the responses. Future studies may overcome this problem by using objective measures of performance and should follow the Lindell and Whitney (2001) procedure to test for it.

Future research should seek to construct a more robust model for considering the causal relationship between network capabilities and organisational performance. Specifically, the drivers of relationship quality in a network context should contribute to our understanding of the linkages between network relationships and network performance. This focus may also bring the ideas associated with network value and/or relationship value under investigation.

Based on these results it is recommend that firms may improve their performance in a business network context through enhanced managerial attention to (a) better coordination between actors in the network, (b) the development of relational skills among actors in the network, (c) increased partner knowledge across firms in the network, and (d) increased quality of inter-firm communications. These dimensions were positively correlated with perceived measures of firm performance and should yield returns on managerial investment. In addition, the network competence and network capability were tested and both exhibit good reliability and construct validity. These scales may be used as the basis for initiatives to measure a firm's ability to manage in complex business networks. Moreover, it is recommended that firms adopt a critical view of their ability to manage and operate in increasingly collaborative network environments.

Chapter 5

In chapter 5 the context specificity of the measurement dictated by a focal firm approach limits the generalizability of these results. The high tech environment of CAD systems and the associated engineering applications may well represent a particular conceptualisation of Business-to-Business relationships. Future studies might employ cross-sectional design

methodologies which could improve their ability to generalise the results. Because of the heterogeneity commonly found in emerging markets in this study, no test for common method bias was done. Often typical causes of common method bias such as consistency and social desirability (Podsakoff *et al.*, 2003) is minimal in highly heterogeneous samples. However it is acknowledged that these results may well be inflated because of common method bias and it is therefore suggested that future studies employ the procedure suggested by Lindell and Whitney, (2001) and Liang *et al.* (2007) to test for common method bias. Moreover, the results do exhibit some (though very limited) multi-collinearity. Developing more robust measures for satisfaction and loyalty in future studies should resolve this problem. Moreover, a random sample based on a cross-sectional design may also yield better multivariate normality which can facilitate the use of robust covariance-based structural equation modelling analysis.

The mediation constructs that were of particular importance in a South African context and which enjoy support from prevailing South African literature were included in this study. These may be expanded upon. While Information Sharing was emphasised, in particular during the qualitative phase of the research, other constructs such as Cooperation and Adaptation (Cater and Cater, 2010), Relationship Specific Investments (Palmatier *et al.*, 2007) and Relational Embeddedness (Rindfleisch and Moorman, 2001) may well be relevant, even in an emerging market context. In addition, by considering Behavioural Loyalty (Cater and Cater, 2010) future studies may obtain a more complete picture of the loyalty construct. Finally, from the literature it is clear that many of the constructs employed to explain Business-to-Business relationships share conceptualisation. Future research may assist in

isolating these constructs more distinctly, with obvious benefits for constructing parsimonious models.

Overall limitations

- *Identification of constructs:* Much emerging market research uses theoretically-grounded constructs originating from developed markets. This notion in itself is not problematic where constructs are of a purely human nature as such, and are derived from universal human needs. However, in Business-to-Business marketing the constructs are not always a function of human nature (purely), but are subject to organisational and network effects. Hence, the exportation of constructs in Business-to-Business markets across cultural contexts should be done with caution. In this research the constructs used are of both human and organisational nature and thus the universal generalisation is limited. This limitation is offered despite the evidence from a programmatic series of studies dealing with organizational constructs by Deshpandé and Farley (2004) who demonstrated that measures of organizational culture, organizational climate, market orientation, innovativeness and firm performance, are equally applicable across the globe.
- *Theoretical equivalence:* This is an issue when constructs are less firmly grounded in theory. Constructs so loosely defined and bereft of rigorous theoretical grounding are unlikely to provide a basis for further theoretical advances or meaningful cross-national insights owing to the radically different contexts of markets. When constructs are only informally defined, it becomes very difficult to develop hypotheses to be tested in emerging markets based on previous research, as we may be using apples to explain oranges. The constructs for network competence and network capability

appear to be suffering from a lack of rigorous theoretical grounding and their “over-the-counter” use is not advised unless accompanied by validity and reliability testing.

- *New construct identification:* It is difficult, if not impossible, to understand organizational relations in China without *guanxi*, a concept which carries expectations that, some future time, favours will be returned. Similarly, in Africa it is important to understand the construct of *ubuntu*, a pervasive spirit of caring and community, harmony and hospitality, humility, respect and responsiveness. It stresses group embeddedness, kinship ties, linking reward systems to group performance, and consensus-based decision making. In the consumer context, ubuntu has relevance in the aspects of life that interest marketers, such as family decision making and reliance on word-of-mouth communication. In the organizational context, notwithstanding that senior management typically make final buying decisions when national cultures are high on hierarchy and embeddedness, ubuntu suggests opportunities for new research into intra-organizational networks of information sharing and consensus building within buying centres. An interesting question is whether these and other constructs are purely indigenous constructs or whether they can also be fruitfully employed in other emerging markets. Hence, the constructs in this study is not representative of all emerging markets and therefore their generalisation is limited to South Africa.
- *Institutional context and structure:* In principle, the institutional context is an important consideration in any study, especially when it differs significantly from where the measures were conceptualised. Based on the work of social theorists Burgess and Steenkamp (2006), it is advisable that emerging market researchers should pay attention to the three pillars of institutions that provide structure to society. These include socioeconomic, cultural and regulative subsystems (see table 6.6). The socioeconomic system comprises macroeconomic and demographic characteristics,

levels of within-country diversity, and dynamics caused by rapid social, political and economic change. The cultural system represents culturally supported beliefs, attitudes, habits, norms and behaviours. It maintains that external cultural frameworks shape internal interpretive processes and shared understanding. The regulative system involves the capacity to establish formal rules, to inspect society members' conformity to them, and if necessary, to impose sanctions. It includes the presence and efficacy of regulatory institutions and the associated legal system that exists to ensure stability, order and continuity of societies. The international business literature typically has emphasized the study of regulative and socioeconomic systems, while marketing has been more concerned with the cultural system (Steenkamp, 2001). Although the socioeconomic, cultural and regulative systems are embedded and interconnected in societies, they affect both groups and individuals.

Table 6.6: Institutional subsystems comparison: Emerging versus developed markets

Institutional Subsystems	Emerging Markets	Developed Markets
<i>Socioeconomic subsystem</i>		
Dynamics	Rapid social, political and economic change	Moderate social, political and economic change
Demographics	Young, growing, large pool of under-educated	Older, stagnant, well educated
Diversity	Extreme differences in household size and income, living standards, access to human development resources	Smaller differences in household size and income, living standards, access to human development resources
<i>Cultural subsystem</i>		
Hierarchy vs egalitarianism	Hierarchy emphasised	Egalitarianism emphasised
Embeddedness vs autonomy	Embeddedness emphasised	Autonomy emphasised
<i>Regulative subsystem</i>		
Rule of Law	Moderate abuse of public office for private gain, moderate reliance on legal rights enforceable in courts of law, investor rights lower, legal outcomes more unlikely	Low abuse of public office for private gain, high reliance on legal rights enforceable in courts of law, investor rights higher, legal outcomes more likely
Stakeholder influence on corporate governance	Government, civil society, supply chain stakeholders influence high.	Government, civil society, supply chain stakeholders influence moderate

Source: Adapted from Burgess and Steenkamp (2006)

6.5 Future research

6.5.1 Business-to-Business research in emerging markets

Most contemporary research in the field of marketing has been conducted in high income, industrialized countries or the so-called developed markets. Although it is understandable that researchers in a maturing discipline such as marketing would initially focus on the world's most advanced economies, it is paramount that more research is conducted in so-called emerging markets. Although emerging markets vary in human development and national income, there are certain characteristics that shape their institutional context and the ultimate success of marketing programmes there. Institutions are enduring features of social life in both developed and emerging markets. In emerging markets, different institutional contexts often present significant socioeconomic, demographic, cultural and regulative departures from the assumptions of theories developed in the western world and challenge our conventional understanding of constructs and their relations (Wright *et al.*, 2005). Conceptually, this renders it less than obvious that our established theories and empirical generalizations are applicable to these markets (Burgess and Steenkamp, 2006). Practically, it implies an urgent need for more research because success in emerging markets is crucial to the future of many of our firms (see the earlier discussion on FDI flows). More emerging market research is needed, not just to further advance marketing as an academic discipline, but in order to maintain its managerial relevance.

6.5.2 IMP research directions

The IMP (Industrial Marketing and Purchasing Group) is an important research grouping in the field of Business-to-Business marketing, and in recent years it has become evident that its

contribution is increasingly acknowledged outside Europe. Although the IMP Group has Europe as its primary base, we have witnessed increasing attention to their work from Asia and Australia (where IMP Asia is very active) and even top tier North American journals such as JAMS⁴ are including more and more references to IMP work. This is in addition to Business-to-Business specific journals such as IMM⁵ and JBIM⁶ that are already synonymous with IMP research outputs. However, IMP remains largely active in develop markets and emerging market contributions are sporadic at best.

In particular, IMP research has focused on relationships in Business-to-Business markets and there are few researchers in marketing today who are not addressing relationships in one way or another. Ford and Håkanson (2004:249) posit that the IMP research originally centred around four key challenges to conventional marketing theory:

“First, we challenged the idea that business sales or purchases could sensibly be considered as isolated events involving customers that entered and then left the market for a particular product. Instead, we stressed that these transactions are simply episodes in continuing relationships between supplier and customer. This led us to the idea that the task for researchers was to try to understand these relationships and for companies, it was to try to manage them. Second, we challenged the idea that marketing consisted of independent action by a supplier in constructing its marketing mix and projecting it at a passive market. Instead we observed interaction between active suppliers and customers, both of which could be involved in determining, developing and implementing the transactions between them. Third, we challenged the idea that customers (or suppliers) can be considered as a homogeneous, atomistic group. Instead, we found that companies interacted with a relatively stable, heterogeneous and individually significant group of customers and suppliers. Finally, we challenged the idea that it is possible to make sense of either the marketing or purchasing processes by considering them separately. Instead, we emphasised the similarity of the tasks in which both parties were engaged. We also said that an understanding of what was happening could only be obtained by simultaneously analysing both the buying and selling sides of relationships.”

⁴ Journal of The Academy of Marketing Science

⁵ Industrial Marketing Management

⁶ Journal of Business and Industrial Marketing

The IMP Group has created, in essence, an alternative way to consider Business-to-Business marketing and has opened the path for researcher to explore alternative approaches. Ford and Håkanson (2004:249) explain this by considering “two worlds”. In the first there is the conventional approach that largely relies on action – what marketers do to the market. In the second world interaction dominates the thinking, and relationships are rather influenced by the interactive nature of exchanges. The authors (Ford and Håkanson, 2004) contrast these two “worlds” as follows (table 6.7):

Table 6.7: Contrasting conventional and IMP views

The world of market and action	The world of network and interaction
<i>Structure and process</i>	<i>Structure and process</i>
Defined by a product	Defined by the threads between nodes
Anonymous members	Individually identifiable members
Atomistic	Particular
Heterogeneity inside units	Heterogeneity also between units
Competitive	Conflictual and cooperative
Competition between independent companies	Relationships between inter-dependent companies
Clear separation between vendors and customers	Companies having multiple and unclear roles
Stable (except in terms of counterparts)	Changing (except in counterparts)
Change emanating from external sources	Different short- and long-term trends and changes – internal as well as external sources but all influencing through relationships
<i>Actions</i>	<i>Interactions</i>
Based on the actions of single actors	Based on the interplay between actors
Structure creates common modes of behaviour	Structure creates individual modes of behaviour
Actions a result of individual company strategy	Interactions are a result of how companies relate to one another
Homogeneous products for multiple customers	Heterogeneous offerings for individual customers
Single supplier controls marketing mix	Multiple companies involved in developing and fulfilling offerings
Distribution managed by producer	Coordination of offering either absent or managed by any company
Market is demand-driven	Network is problem-driven
Different activities for suppliers and customers	All companies engaged in networking

Source: Adapted from Ford and Håkansson (2004)

The IMP’s Group interaction approach also enjoys wider support. In 2008, Rumani and Kumar published a scale for measuring interaction orientation in the esteemed *Journal of Marketing*. Although the motivation by Ramani and Kumar (2008) is not necessarily seeded in the IMP literature, the notion to acknowledge “interaction” is useful for the research

community. These authors argue that marketing managers are being required to demonstrate the profitability of their marketing actions down to the level of their individual customers and on an on-going basis. At the same time, customers expect firms to increasingly customize their products and services to meet their demands. Technological advances have heightened interactivity between customers and firms, customers and customers, and firms and firms. Thus, increasing profit pressures, customer demand heterogeneity, and advances in technology all suggest that firms need to develop an orientation that is appropriate for survival and success in increasingly interactive market environments. Interactions help firms refine their knowledge about customer tastes and preferences. The effective and efficient management of interactions and the interfaces at which these interactions occur are increasingly being recognized as sources of lasting competitive advantage. Ramani and Kumar (2008) motivated interaction from a conventional (not IMP) perspective, and they demonstrated a positive association between interaction orientation and firm performance. Interestingly, in their research they argued that Business-to-Business firms are expected to have a higher level of interaction orientation (thereby supporting the IMP perspective), but their data could not support this hypothesis. This in itself presents Business-to-Business researchers with fertile research ground.

When these challenges for IMP research are gauged in terms of structural and process dimensions the following pointers for future research emerge:

The challenge to structure:

- Relationships may exist over many years and involve many individuals on both sides.

This emphasises the possibility for emerging marketers to engage in longitudinal

research designs that consider dyadic relationships from both the buyer and the seller perspectives.

- Increasing technological intensity feeds the growing interdependence between firms as they become more and more specialised, often resulting in having to solve more complex problems. These problems require more complex offerings and the activities of the firms involved have to be ever more closely linked within relationships. Hence, academic research needs to provide more complex research designs that are non-linear.
- Businesses today cannot be neatly categorised into discrete types of firms, such as manufacturers, wholesalers or retailers, each of which operates in a particular way. Instead, business is now carried out by a much wider network of companies operating within many different models. For example, many “manufacturers” do not manufacture, but obtain their products within complex relationships with suppliers. In turn, these suppliers may produce, but not design what they offer. Other companies may specialise only in designing products for others to produce. Retailers are now much less likely to buy standardised, branded products from manufacturers. Instead, they are more likely to be involved in developing their own offerings within their relationships with firms that hold the necessary product or process technologies needed to bring those offerings to fruition. This provides for a new context of boundary spanning and calls for inter-disciplinary research designs.
- The general picture of the importance of relationships is accepted by most researchers, but when we turn to its consequences, there is a clear dispute. Relationship research is indeed a crowded space, but also finds itself at a critical juncture. For example, the emerging market researcher has unique opportunities to contribute to relationship marketing from multi-cultural perspectives.

The challenge to process:

- The IMP Group largely views process as interaction and therefore there are a number of challenges pertaining to understanding the processes behind relationships. Interaction infers that outcomes in business are the result of actions or proposals and responses between counterparts (Ford and Håkansson, 2006). These actions and reactions occur in series and in parallel and both are made in light of each party's perceptions of the views and likely response of the other, whether known or anticipated. Interaction means that no action by an individual is either isolated or independent. Importantly, it is this absence of isolation and independence that, for example, creates a gap between IMP research and strategy research (see chapter 4). In this context emerging market research should be in a favourable position to contribute because many of the emerging market cultures actually promote group embeddedness and inter-dependence (see table 6.6).
- Related to the above, the importance of interaction has not been accepted in the marketing or in other business literature in the same way that relationships have. One obvious reason for this is that relationships are easy to observe and to document so they have to be accepted and explained. Interaction is much more difficult to demonstrate, to analyse, to picture, to conceptualise, to make normative statements about, or to translate into a management technique. More importantly, interaction is much more challenging to the established theory.
- Putting interaction at the centre makes it near impossible to make sense of what happens between firms by looking at just one of them. The direction of a business relationship is outside the control of a single firm and neither of the companies involved owns, directs or manages it. A relationship has an "interactive existence" beyond that of the participants. Its story can only be told by describing interaction

rather than action. Success or failure of a relationship cannot be expressed simply from the perspective of a single company and will almost certainly be viewed differently by the two parties. This notion encourages researchers to study dyads from both seller and buyer perspectives. Especially in recent IMP literature, some studies seem increasingly to employ such dual (up- and down-stream) research designs, but more can be done. The insight that can be gained from looking up and down a value chain (simultaneously) is open for exploration.

- Research opportunities also abound because IMP scholars experience that although the idea of relationships has been relatively easy to accept, the processes that lie behind them have received much less attention. There are several possible reasons, but it is believed that it has to do with (a) the usual focus on the single company in marketing literature, (b) whether the process of business development is driven by factors external to the firm in the form of such things as “the market conditions”, and (c) whether the business process is formed and driven by the firm itself (Baraldi *et al.* 2007; Ford and Håkanson, 2004). These propositions seem rather ambitious and more research is needed. Especially in high context cultures where the issue of embeddedness is expected to be more prevalent.

6.5.3 Methodological directions

Philosophers of science have long argued that science is a process. The marketing science process involves development of theoretical explanations of marketing phenomena, empirical testing of these explanations, and extension and/or revisions of generalized explanations. This process consists of four stages (see figure 6.3).

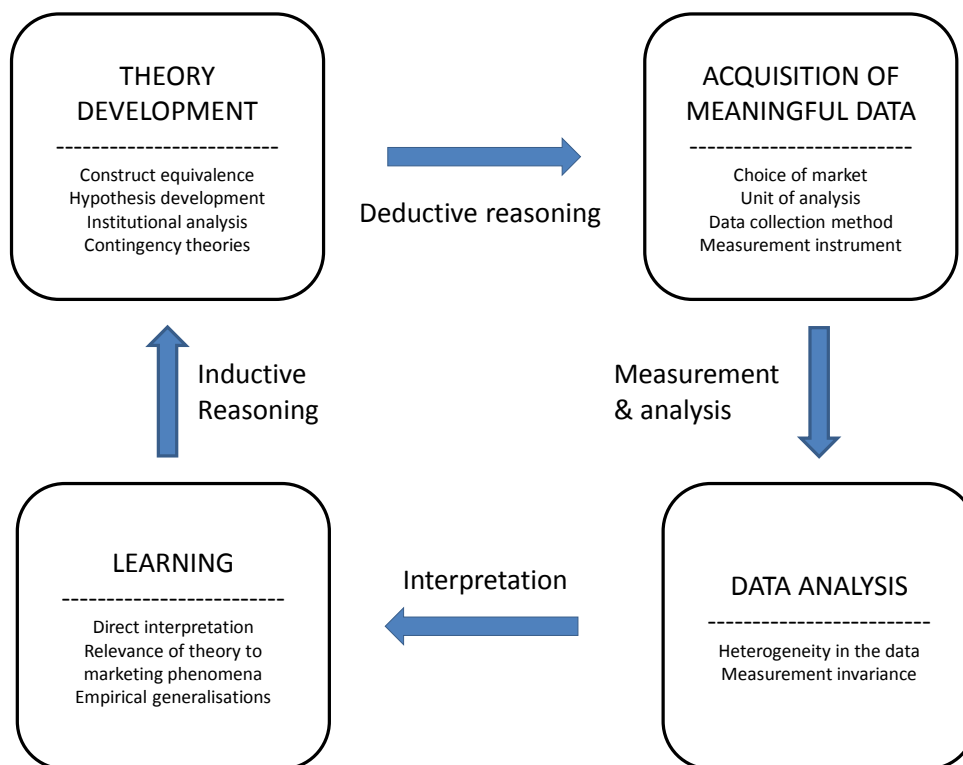


Figure 6.3: Research process framework typical to emerging markets

Source: Adapted from Burgess and Steenkamp (2006)

The process usually starts with theory development. At this stage, it is important to delineate one's theoretical constructs and the mechanisms underlying the hypotheses carefully. It makes sense to draw on the large body of existing theoretical and empirical research as the point of departure, as this is how science progresses. However, previous research must be assessed critically for relevance to the institutional context in which research is being conducted, taking special care to explicate hidden assumptions, such as levels of human development and culture. After all, the institutional context is arguably the most important aspect on which emerging markets differ from developed markets. The second stage concerns acquisition of meaningful data. Through deductive logic – going from general assertions to relatively more specific instances – the marketing scholar moves from a theory to a specific

operational research design. The researcher needs to specify (and justify) the choice of the emerging market country(ies) in which data are collected, define the unit of observation, choose appropriate data collection methods, develop valid measurement instruments, and collect data. By imposing a particular view on emerging markets informed by data collection practice in developed countries, emerging market researchers are in danger of collecting wonderful, but invalid data. The third stage concerns data analysis. Cross-national comparability of data is clearly a key issue. The extreme within-country heterogeneity which characterizes most emerging markets also has implications for the statistical methods used in the analysis. This stage will show that emerging markets not only provide a natural laboratory for developing new theories and data collection methods, but also a challenging setting, calling for cutting-edge new analytical techniques. For Business-to-Business researchers in emerging markets three analytical techniques/approaches appear to hold promise as they exhibit high levels of flexibility and an ability to deal with complexity:

- *Network analysis*: A social network is a theoretical construct useful in the social sciences to study relationships between individuals, groups, organizations, or even entire societies (social units, see differentiation). The term is used to describe a social structure determined by such interactions. The ties (sometimes called edges, links, or connections) in the structure are called "nodes". The nodes through which any given social unit connects represent the convergence of the various social contacts of that unit. Many kinds of relationships may form the "network" between such nodes. Such an approach is useful for modelling and explaining many social phenomena. The theoretical approach is, necessarily, relational. An axiom of the social network approach to understanding social interaction is that social phenomena should be primarily conceived and investigated through the properties of relations between and within units instead of the properties of these units themselves. Thus, one common

criticism of social network theory is that an individual agency is essentially ignored, although this is not the case in practice (see agent-based modelling). Precisely because many different types of relations, singular or in combinations, form into a network configuration, network analytics are useful to a broad range of research enterprises. In social science, these fields of study include, but are not limited to, anthropology, biology, communication studies, economics, geography, information science, organizational studies, social psychology, sociology, and sociolinguistics. Scholars in these and other areas have used the idea of "social network" loosely for almost a century to connote complex sets of relationships between members of social units across all scales of analysis, from the local to the global, as well as to the scale-free (Henneberg *et al.*, 2009).

- *Agent-Based Modelling*: An agent-based model (ABM) (also sometimes related to the term multi-agent system or multi-agent simulation) is a class of computational models for simulating the actions and interactions of autonomous agents (both individual and collective entities such as organizations or groups) with a view to assessing their effects on the system as a whole. It combines elements of game theory, complex systems, emergence, computational sociology, multi-agent systems and evolutionary programming. Monte Carlo methods are used to introduce randomness. Agent-based models are also called individual-based models. The models simulate the simultaneous operations and interactions of multiple agents, in an attempt to re-create and predict the appearance of complex phenomena. The process is one of emergence from the lower (micro) level of systems to a higher (macro) level. As such, a key notion is that simple behavioural rules generate complex behaviour. This principle, known as K.I.S.S. ("Keep it simple and short") is extensively adopted in this modelling community. Another central tenet is that the whole is greater than the sum

of the parts. Individual agents are typically characterized as bounded rationality, presumed to be acting in what they perceive as their own interests, such as reproduction, economic benefit or social status, using heuristics or simple decision-making rules. ABM-agents may experience "learning", adaptation, and reproduction. Most agent-based models are composed of: (1) numerous agents specified at various scales (typically referred to as agent-granularity); (2) decision-making heuristics; (3) learning rules or adaptive processes; (4) an interaction topology; and (5) a non-agent environment. For applications in Business-to-Business marketing see (for example) Følgesvold and Prenekert (2009) and Forkmann *et al* (2011).

- *Qualitative Comparative Analysis*: According to Greckhamer *et al.* (2008) arguably the only enduring point of consensus during the last three decades of research in strategy literature has been that industry, corporate, and business-unit effects are not independent, and that this condition presents a serious challenge for general linear methodologies given their assumption that effects are independently generated. These limitations of general linear models to fully incorporate the relationships among industry, corporate, and business-unit factors in large led McGahan and Porter (2002:2) to suggest that “*while there are ways to continue to learn from this research, its limits suggest that the time has come to explore whole new approaches.*”

In search of a solution Ragin (1987:222) proposed Qualitative Comparative Analysis (QCA) and motivates his search for an alternative as follows:

“Social scientists often face a fundamental dilemma when they conduct social research. On the one hand, they may emphasize the complexity of social phenomena – a common strategy in ethnographic, historical and macro social research – and offer in-depth case studies sensitive to the specificity of the things they study. On the other hand, they may make broad, homogenizing assumptions about cases, and document generalities – patterns hold across many instances. Research strategies that focus on complexity are often labeled “qualitative”, “case-oriented”, “small-N”, or “intensive”. Those that focus on generality are often labeled “quantitative”, “variable-oriented”, “large-N”, or “extensive”. While the contrasts between these two types social research are substantial, it is

easy to exaggerate their differences and to caricature the two approaches, for example, portraying quantitative work on general patterns as scientific but sterile and oppressive, and qualitative research on small N'ss as rich and emancipatory but journalistic. It is important to avoid these caricatures because the contrasts between these two general approaches provide important leads both for finding a middle path between them and for resolving basic methodological issues in social science."

QCA starts from the premise that causation is not easily understood because (a) outcomes of interest rarely have any single cause, (b) causes rarely operate in isolation from each other, and (c) a specific causal attribute may have different and even opposite effects depending on context. Building on this premise, QCA utilizes Boolean algebra and the logic of Boolean algorithms for performing holistic comparisons. The QCA approach to conceptualizing and analysing causality decisively differs from statistical analyses based in linear algebra. The latter seek to estimate the separate contribution of each cause (independent variable) in explaining variation in the outcome (dependent variable) in an attempt to understand the causality underlying a particular type of outcome. In contrast, in the QCA approach, cases sharing the same outcome of interest are systematically compared with the intent of identifying the common causal conditions—whether constituted by a single causal factor or combinations of causal factors—across these cases. This approach appears to be especially useful to IMP researchers which have a long tradition of case orientated research. Admittedly, QCA may have some limitations, and perhaps call for some adjustment to our perceptions regarding the volumes of research outcomes and the generalizability of findings, but the potential richness of insights that may be gained via QCA demands closer attention.

Results are subsequently interpreted, leading to the fourth stage in which learning takes place. The findings are critically evaluated and new insights are generated. Through the process of inductive logic, marketing science uses these specific findings to arrive at more general conclusions concerning the validity of previous empirical generalizations and the existence of boundary conditions, if any. This leads to extension or revision of generalized explanations, which subsequently can be tested with new data. Improved theory, data collection and data analysis techniques will also strengthen marketing science in developed countries.

6.5.4 Theory development

In order to move forward, researchers need to explore the emerging market institutional context and its effects on marketing phenomena systematically. Although researchers should be open to constructs and theories developed in emerging markets, it is natural that the large existing body of work be a primary point of departure. Only in this way can researchers arrive at contingency theories of marketing that may possibly be applicable across a wide range of countries and environments.

Marketing theories that consider group dynamics and social influences are underdeveloped. This limits their applicability in embedded EM contexts, as does a lack of clarity about whether constructs developed in mature markets are theoretically equivalent in emerging markets. Theoretical equivalence is difficult to establish but a wide range of procedures, ranging from qualitative techniques to structural equation modelling, can be used for this purpose. Table 6.8 (at the end of this chapter) lists some theories that Business-to-Business researchers in emerging markets may employ to explain various phenomena. This list, based

on the collection of organisational theories by Hult (2011), is not intended to be exhaustive and neither is one theory preferred above another. Rather, researchers will in all likelihood use a combination of theories. This table provides ideas for the utilisation of twenty-six selected theories in marketing research in general, and IMP and Business-to-Business research in particular. From this comparison it is clear that opportunities for new research directions are plentiful.

6.6 Conclusions

The multiple output research programme documented in this thesis contributed synergistically to the advancement of the field of Business-to-Business marketing. Primarily it set out to answer three questions. *Firstly*, it needed to establish whether a relationship orientation is positively associated with firm performance under emerging market conditions and in the presence of the very popular innovation orientation. The results show that when firms adopt a relationship orientation they are likely to perform better. In addition, the results fill a gap in the literature by considering multiple strategic orientations simultaneously and show that firms in emerging markets need to adopt both an innovation and a relationship orientation.

Secondly, the research identifies the critical shortfall in the emerging market literature on Business-to-Business networks where the association of network competencies and capabilities with firm performance remains unexplored. The results not only put forward a refined measure for network competencies, but also demonstrated that (a) cross-relational

network tasks, (b) relationship specific network tasks, (c) specially developed network qualifications, and (d) social network qualifications are positively associated with firm performance. Furthermore, the results show that the measure of network competence may vary by industry classification, the managerial position and the age of the respondent. Important to a South African context, a positive association between network competence and compliance with industry prescribed BEE (Black Economic Empowerment) requirements was observed. This finding may suggest that the BEE programme (a policy framework to ensure that the previously disadvantaged get access to employment and economic opportunities) in South Africa advances networking among businesses. The study also shows that network capabilities, as measured in terms of (a) coordination between actors in the network, (b) the relational skills of actors in the network, (c) partner knowledge across firms in the network, and (d) the quality of inter-firm communications, show an even stronger association with firm performance. This point directly at the capabilities firms need to develop if they seek to enhance their ability to participate in Business-to-Business networks.

Thirdly, the research provides an answer to the question: *Are the mediators and moderators of the customer satisfaction to customer loyalty paradigm in business relationships, in emerging markets consistent with those observed elsewhere?* The results show that at a dyadic level there is considerable support for the trust and commitment theory often employed in developed markets. This means that in an emerging market Business-to-Business context the relationship between customer satisfaction and customer loyalty is fully mediated by trust and commitment in the relationship. This contribution is to date the only South African study that considered the satisfaction-loyalty-performance causal chain in non-financial markets of an emerging market economy. Moreover, the research also observed the

positive impact of information sharing on the loyalty of Business-to-Business customers. Sharing accurate and timeous information between firms can increase the chances of establishing long term relationships and repeat purchases.

Emerging market research in the field of Business-to-Business marketing is in its infancy. The challenge is enormous, but so are the rewards. Emerging market scholars can make significant contributions to knowledge in this field of study. The prerequisites are that they avoid the blinding effect of models and approaches conceived in the developed world. At the same time they should not being locally biased and recon that if something is not invented in Africa (for example) it cannot work in Africa. Hence, a balance between ethno-centric and afro-centric approaches, driven by scholarly objectivity and independence, should serve them well.

Business-to-Business marketing is also a growing field. Surely its development is largely fuelled by discoveries in mature economies, but with the recent shift in manufacturing to the emerging economies, Business-to-Business marketing is fast becoming a global field of scholarly enquiry. In this expansion of the field the IMP Group should and probably will play an important role. In other words the IMP Group will ensure that it takes cognisance of research advances in the developing economies and that emerging market researchers will participate in IMP research activities. In South Africa, in particular, this research programme is, as far as could be established, the first to rely heavily on IMP insights. It opens Africa to IMP.

Table 6.7 Marketing theories for Business-to-Business research in emerging markets

Theory/Source	Basic tenet	Marketing in general	Insights for: IMP and B2B research
Adjustment-Cost Theory of the Firm <i>Wernerfelt (1997)</i>	Examines trading relationships and asks by which process the parties should adjust the relationship by accommodating the other party.	Correlates with the notion of “relationship specific investments” and reciprocity.	Intrinsic to the IMP approach.
Agency Theory <i>Jensen and Meckling (1976)</i>	Agency theory explains firm governance by delineating firm owners as principals that hire agents (managers) to carry out the business of operating the firm.	A pure stewardship view of marketers may have some limitations in terms of their role in the firm and in the market place.	What if the development of the network, not controlled or owned by any single firms, is in conflict with the mandate of the agents? Information asymmetry and cultural variation between agents is fertile research ground.
Bounded Rationality Theory <i>Simon (1957)</i>	Recognizes that it is not possible to understand and analyse all information that is potentially relevant in making firm choices; in order to cope with their complexity, firms develop techniques, habits-, and operating procedures to facilitate decision-making.	Rational behaviour and limits of rationality are the basic premises for marketing managers in developing marketing organizations and forming marketing strategy.	Rationality does not really feature in IMP research – why not? Also, the gap between conventional strategic management approaches and the IMP is receiving increasing attention.
Competence- Based Theory <i>Hunt 2000</i>	An “internal factors theory of business strategy” and used to refer to what the firm can do particularly well in relation to its competition.	Competence-based theory lends itself uniquely to the study of the marketing organization in that it focuses its sole attention on the distinctive competencies that make the marketing organization thrive in a competitive environment.	What competencies are needed for (a) managing in the network, (b) managing the network?
Contingency Theory <i>Scott (2005)</i>	A branch of systems design which is guided by the idea that organizations whose internal features best match the demands of their environments will achieve the best. This gave rise to the notion of strategic fit.	Marketing organisation depends on the environment.	Underlying assumptions of IMP (such as actor inter-dependence) correlates well with this theory. The network itself as major environmental variable contains ample opportunity for exploration.

Theory/Source	Basic tenet	Marketing in general	Insights for: IMP and B2B research
Game Theory <i>Von Neumann and Morgenstern (1944)</i>	Applied mathematics which in management has been used to capture behaviour in strategic situations.	Can be used in marketing to develop marketing strategy to gain a better theoretical understanding of decision-making choices and potential outcomes.	Opportunities for considering “network choices” from a theoretical perspective.
Industrial Organization <i>Bain (1956)</i>	Rooted in economics and focuses on the strategic behaviour of firms, the structure of markets, and their interactions, and their effect on firm performance.	Strategic marketing behaviour of marketing organizations, the structure of the marketplace in which they operate and the interactions among marketing strategy and market structure.	Underlying assumptions are common in IMP literature. Can the network explain market structure? The notion of “networks as markets” is attracting increasing attention.
Information Economics Theory <i>Stiglitz (1961)</i>	Originated from microeconomic theory and focuses on how information affects economic decisions of a firm. Information is valuable.	Information generation and dissemination affect resource allocation and decisions of a marketing organization.	IMP work includes many studies that focus on information asymmetry. Within this, researchers are yet to explore the ideas of “signalling” and “screening” in a network context.
Institutional Theory <i>Scott (2005)</i>	Attends to the deeper and more resilient aspects of social structure. It considers the processes by which structures, including schemas, rules, norms and routines, become established as authoritative guidelines for social behaviour and looks into how these elements are created, diffused, adopted and adapted over space and time; and how they fall into decline and disuse.	Focuses on the marketplace (environmental) factors that are experienced by a marketing organization, such as industry or societal norms, regulations, and requirements that an organization must conform to in order to receive legitimacy and marketplace support. It depends on the social constructs, informal and formal marketing exchanges to help define the structure and processes of an organization.	Often used and challenged in IMP literature. Some question its ability to explain the behaviour “in” and “of” networks.
Knowledge-Based View of the Firm <i>Grant (2002)</i>	The assumptions about the characteristics of knowledge and the knowledge requirements of production, lead researchers to conceptualized the firm as an institution for integrating knowledge.	There is an implicit assumption that there is value and that production gains can be realized by having marketing professionals specializing in knowledge acquisition and organizational memory storage. Also, if the primary productive resource of the marketing organization is	Well embedded in IMP research. The idea of network knowledge – referring to challenges in terms of knowledge generation and knowledge dissemination in the network, harbours many research opportunities.

Theory/Source	Basic tenet	Marketing in general	Insights for: IMP and B2B research
Network theory <i>Granovetter (1973)</i>	It involves the creation of a blend of strong and weak ties between nodes that match the firm's needs in order to maximize the firm's performance. It describes, explains and predicts relations among linked entities.	market and/or marketing knowledge, and if knowledge resides in marketing professionals, then it they who own the bulk of the marketing organization's resources. Views marketing relationships as consisting of actors, resource ties and activity links. Actors control the resources and perform the activities. Activities link resources to each other; an activity occurs when one or several actors combine, develop, exchange or create resources by using other resources. Resources, in the network context, include input goods, financial capital, technology, personnel and marketing.	Foundational to the IMP work. It enjoys a plethora of applications and research opportunities. Despite this networks-level analysis and based on network-level research, designs are limited. Also, are network relationships distinct from dyadic relationships?
Organizational Ecology <i>Kahneman and Tversky (1979)</i>	Also referred to as cumulative prospect theory, it describes how organizations (or people) make choices between alternatives that involve degrees of risk; the theory focuses on how organizations (or people) evaluate potential losses or gains.	Prospect theory describes how marketing organizations make choices between marketing strategy alternatives that involve degrees of marketplace risk, with the evaluation being on the marketplace gains or potential losses that may be incurred by the organization.	Understanding "network risk" may contribute to our understanding of inter-firm partnering decisions.
Real Options Theory <i>Myers (1977)</i>	Rooted in techniques developed for valuing financial options, it focuses on risk uncertainty and revolves around creating and then exercising or not exercising certain options.	Marketing managers should look beyond the net present value of a marketing investment and consider the value of the options offered by such an investment. Exogenous uncertainty in the marketplace lies beyond the reach of marketing managers' control, although it may be reduced as market events unfold.	Real options reasoning can be employed to consider "network risk."

Theory/Source	Basic tenet	Marketing in general	Insights for: IMP and B2B research
Resource-Advantage Theory <i>Hunt and Morgan (1995)</i>	The comparative advantage theory of competition suggests that the basis for a sustainable competitive advantage resides in an organization's resources and in how it structures, bundles and leverage those resources.	The theory was originally developed in a marketing context. Given its marketing foundation, the resource-advantage theory envisions the marketing organization as a bundle of marketing resources that is rooted in a disequilibrium-seeking process embedded in a marketplace of less-than-perfect competition.	Some of the IMP approaches are in conflict with the competition and advantage assumptions of this theory. IMP prefers cooperation instead. This gives rise to the idea of "co-petition."
Resource-Based View of the Firm <i>Wernerfelt (1984)</i>	The resource-based view of the firm envisions the firm as a collection of strategic resources which are heterogeneously distributed across firms to achieve a sustainable competitive advantage	The resource-based view of the firm envisions the marketing organization as a bundle of strategic marketing resources which are heterogeneously distributed across marketing organizations and are rooted in an equilibrium-seeking process embedded in a marketplace of perfect competition.	Very useful to IMP research as demonstrated in chapter 4. Resource heterogeneity is key to understanding networks. Resource ties are therefore a major component of IMP research and the notion of "network resources" is promising. Research opportunities abound.
Resource Dependence Theory <i>Pfeffer and Salancik (1978)</i>	Resource dependence theory describes the sources and consequences of power of organizations embedded in networks of interdependencies and social networks that revolve around the control of, and dependence on, vital external resources in the environment.	Resource dependence theory suggests that the sources and consequences of power that marketing organizations have in the marketplace depend on their industry-specific marketing networks and alignment with supply chain partners that revolve around the control and dependence on strategic marketing resources created by interaction with the external environment.	This theory is also frequently employed in IMP and other industrial marketing research. A marketing organization's ability to implement marketing strategy and operational marketing practices may be constrained when they are dependent on other organizations within their supply chains and industrial networks.
Service-Dominant Logic <i>Vargo and Lusch (2004)</i>	It implies that the goal is to customize offerings, to recognize that the consumer is always a co-producer, and to strive to maximize consumer involvement in the customization to better fit his or her needs. Service is defined as the application of specialized competences	Originally developed within a marketing context. The service-centred view identifies operant [marketing] resources, especially higher-order, core [marketing] competences, as the key to obtaining competitive advantage for a marketing organization.	The use of knowledge as the basis for competitive advantage can be extended to the entire supply chain (or service provision chain).

Theory/Source	Basic tenet	Marketing in general	Insights for: IMP and B2B research
Signaling Theory <i>Spence (1973)</i>	for the benefit of another entity or the entity itself. Signalling theory involves one firm (termed the agent) conveying some meaningful information about itself and/or its products and services to another party (the principal).	It is difficult for customers to know which firms are genuinely committed to business practices with which they associate and from whom they desire to buy products.	In B2B marketing the primary issue involves information asymmetry. Also see the comments in Information Economics Theory.
Social Capital Theory <i>Nahapiet and Ghoshal (1998)</i>	Social capital theory's central premise is that networks of relationships constitute a valuable resource for the conduct of social affairs providing their members with the collectively-owned capital, a 'credential' which entitles them to credit.	Social capital theory recognizes that marketing organizations and the marketplace are composed of people (e.g., customers, salespeople), and that interpersonal skills and relationships among these people (such as the "credits" and trust they build with each other) shape a marketing organization's activities and outcomes.	Pivotal to IMP research with many avenues to explore. A mixture of shared and organization level goals, values and experiences drive marketing strategy making, which leads to superior success for a marketing organization in the marketplace. Sense-making among individuals in and between marketing organizations is a key to trust building in supply chains and market networks. See previous section in this chapter.
Stakeholder Theory <i>Freeman (1984)</i>	Stakeholder theory addresses morals and values in managing a firm that has to deal with a multitude of constituent groups other than shareholders; it views the firm as an organizational entity through which numerous and diverse participants accomplish multiple, and not always entirely congruent, purposes.	Managing primary stakeholder relationships is essential for the firm because it impacts on the firm's ability to achieve marketing objectives.	Especially relevant in high context cultures where the embeddedness of the firm in a particular societal context is important.
Strategic Choice Theory <i>Child (1972)</i>	Strategic choice theory contends that managers' decisions play a tremendous role in a firm's success or failure, with the central issue being strategic renewal and repositioning — the foundational assumption is that firms can enact and	Strategic marketing decisions are often made with concern for the marketing organization as the primary driver, rather than marketing channel partners or the marketplace. Marketing organizations are able to adopt and adhere to a specific	Because of the assumption of independence there are some conflicts with IMP literature. However, this gap in itself is bound to yield interesting research opportunities. (See Baraldi, 2007)

Theory/Source	Basic tenet	Marketing in general	Insights for: IMP and B2B research
Systems Theory <i>Von Bertalanffy (1969)</i>	actively shape their environment. Proposes that every system, regardless of its nature, is composed of multiple elements that are interconnected.	marketing strategy type which fits their core marketing competencies. Decisions that marketing managers makes in an effort to lead their marketing organizations toward prosperity take place within a complicated and complex milieu that requires fine-tuned theorizing so as to not under-specify marketing strategy modelling.	It appears that IMP researchers largely steer clear of systems theory as it may not be adequate to explain complex networks.
Theory of Competitive Rationality <i>Dickson (1992)</i>	Proposes a firm's success depends on the imperfect procedural rationality of its marketing planners. Hence, it is based on disequilibrium analysis and the marketing skills of rivals to explain the free market.	Developed in a marketing context, it supports (amongst others) the notion that firms which adopt a "clan" culture are more competitive over the long term.	Is a network a clan? Should it be?
Theory of Multimarket Competition <i>Edwards (1955)</i>	Focuses on inter-firm competition and sees a firm as occupying a potentially unique market domain that is defined by activities in various geographic-product markets	Its premise of firms competing against other firms in multiple domestic and/or international markets allows its users to envision competing firms as occupying unique market positions in the multiple marketplaces, potentially multiple industries and potentially multiple supply chains.	Obvious opportunities for IMP researchers to engage issues of network depth and network positioning.
Theory of the Multinational Enterprise <i>Hymmer (1976)</i>	The theory of the multinational enterprise suggests that the scope of the internationally-oriented marketing organization rests in control mechanisms and the explicit coordination of value-added activities.	In a marketing sense it is concerned with the market conditions under which an enterprise of one country will be controlled by a firm of another country or enterprises in several countries will be controlled by the same.	Obvious research opportunities for multinational networks. In this research cultural diversity, along with other environment issues, may impact the network on many levels.
Transaction Cost Economics <i>Williamson (1979) & Rindfleisch and Heide (1997)</i>	Transaction cost economics views the firm as a governance structure that focuses on identifying, based on total	It is rooted in the notion that firms and markets represent alternative governance structures that have different transaction	TCT remains one of the key theories in the study of interaction. In terms of networks, transaction cost may well be

Theory/Source	Basic tenet	Marketing in general	Insights for: IMP and B2B research
	costs, the exchanges that should be conducted within and outside the scope of a firm's boundaries.	costs; bounded rationality of the marketing organization and market opportunism along with market transactions involving marketing asset specificity and market uncertainty are what glue the firm together as a governance structure.	limited to explain interactions that seek to optimise the network in addition to the dyadic relationship.

Source: Adapted from Hult (2011)

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Appendix A

Summary of measurement instrument used for the study in:

Chapter 1 - Relationship and Innovation Orientation in a Business-to-Business Context

The instrument included an accompanying letter to explain the purpose of the study, the confidentiality of responses, the contact details of the researcher and the estimated time it should take to complete the questionnaire. Prior to each question a full set of instructions were provided. The questionnaire consisted of three sections:

SECTION A: Innovation orientation Scale

Nr	Items	Source	Scale
Innovation orientation - 7 items		Based on Berthon, <i>et al.</i> (2004)	1 = "strongly disagree" 7 = "strongly agree".
1	Our organization views <i>customers</i> primarily as enthusiastic consumers of our innovative, market shaping products and services		
2	Our organization views <i>products and services</i> primarily as an opportunity to innovate and shape the market.		
3	Our organization views the <i>business environment</i> as important, primarily because of its impact on our ability to develop innovative, market shaping, products and services.		
4	Our organization views <i>competitors</i> primarily as rivals who attempt to develop innovative, market shaping products and services better than we do.		
5	Our organization views <i>itself</i> primarily as a vehicle for creating innovative, market shaping products and services.		
6	Our organization views <i>employees</i> primarily as dedicated to the development of innovative, market shaping products and services.		
7	Relative to our competitors our firm is more innovative.		

SECTION B: Relationship orientation

Nr	Items	Source	Scale
	Trust – 4 items	Based on Sin, <i>et al.</i> (2005)	1 = “strongly disagree” 7 = “strongly agree”.
1	Our staff trusts each other.		
2	Our customers are trustworthy.		
3	Our relationships with clients are based on trust.		
4	Our firm trust its customers.		
	Bonding – 4 items		
5	Our staff relies on each other.		
6	Both our customers and our staff try very hard to establish a long-term relationship.		
7	Customers and staff work in close cooperation.		
8	Customers and staff keep in touch constantly.		
	Communication – 3 items		
9	Customers and staff communicate and express opinions to each other frequently.		
10	Customers and staff can show their discontent towards each other through communication.		
11	Customers and staff can communicate honestly		
	Shared Values – 4 items		
12	Customers and staff share the same worldview.		
13	Our customers and our staff share the same opinion about most things.		
14	Customers and staff share the same feelings toward things around us.		
15	Customers and staff share the same values.		
	Empathy – 4 items		
16	We, customers and staff, always see things from each other’s view.		
17	We (customers and staff) know how each other feels.		
18	We (customers and staff) understand each other’s values and goals.		
19	We (customers and staff) care about each other’s feelings.		
	Reciprocity – 3 items		
20	For my firm to “return a favour” is very important and part of our business philosophy.		
21	Our firm keeps its promises to customers and expects the same of them in any situation.		
22	If customers gave assistance to our firm in difficult times, we would seek to reward them		

SECTION C: Demographic information

This section collected information regarding:

- Whether the firm is privately, semi-government or government owned
- Whether the firm is South African or foreign owned
- Whether the firm focus primarily on domestic or foreign markets
- Whether the majority of it sales are generated from B2B or B2C markets
- The Standard Industrial Classification (SIC) category of the firm
- The functional area in which the respondent operates (marketing, finance, etc.)
- Firm size in terms of annual sales and number of employees
- The managerial level of the respondent
- Age of the respondent
- Ethnicity of the respondent
- Gender of the respondent

- Nationality of the respondent

The following perceptual scale for firm performance:

Nr	Items	Source	Scale
		Based on Fynes and Voss (2002) and Homburg <i>et al.</i> (2004)	1 = "worst than our strongest competitors" and 7 = "better than our strongest competitors".
1	Annual sales growth		
2	Customer retention		
3	Return on Investment (ROI)		
4	Marketshare		

End of the Questionnaire

Revised scale for Relationship Orientation:

As indicated in chapter 2 the Relationship Orientation (RO) scale was subjected EFA that yielded a revised scale presented in the table below.

Nr	Items	Source	Scale
	Trust – 3 items	Based on Sin, <i>et al.</i> (2005)	1 = "strongly disagree" 7 = "strongly agree".
1	Our customers are trustworthy.		
2	Our relationships with clients are based on trust.		
3	Our firm trust its customers.		
	Bonding – 4 items		
1	Customers and staff communicate and express opinions to each other frequently		
2	Both our customers and our staff try very hard to establish a long-term relationship.		
3	Customers and staff work in close cooperation.		
4	Customers and staff keep in touch constantly.		
	Sharing – 6 items		
1	Customers and staff share the same worldview.		
2	Our customers and our staff share the same opinion about most things.		
3	Customers and staff share the same values.		
4	We, customers and staff, always see things from each other's view.		
5	We (customers and staff) know how each other feels.		
6	We (customers and staff) care about each other's feelings.		
	Reciprocity – 3 items		
1	For my firm to "return a favour" is very important and part of our business philosophy.		
2	Our firm keeps its promises to customers and expects the same of them in any situation.		
3	If customers gave assistance to our firm in difficult times, we would seek to reward them		

Means, Standard deviation and correlation matrix of measurement scales:

Innovation Orientation

	Mean	SD	IO5	IO4	IO3	IO2	IO1	IO6	IO7
IO5	5.62	1.318	1						
IO4	5.01	1.609	0.203	1					
IO3	5.85	1.105	0.554	0.194	1				
IO2	5.76	1.200	0.554	0.194	0.529	1			
IO1	5.46	1.302	0.588	0.206	0.562	0.562	1		
IO6	5.46	1.276	0.414	0.144	0.395	0.395	0.42	1	
IO7	5.71	1.176	-0.705	-0.244	-0.67	-0.67	-0.717	-0.497	1

Firm Performance

	Mean	SD	Sales Growth	Customer Retention	Return on Investment	Market Share
Sales Growth (SG)	5.75	0.950	1			
Customer retention (CR)	5.70	1.023	0.463	1		
Return on Investment (ROI)	5.69	0.951	0.571	0.503	1	
Market Share (MS)	5.35	1.281	0.540	0.362	0.478	1

Relationship Orientation

	Mean	SD	TRUS2	TRUS3	TRUS4	COM1	BOND2	BOND3	BOND4	SHAR1	SHAR2	SHAR4	EMPAT1	EMPAT2	EMPAT4	RECI1	RECI2	RECI3	
TRUS2	4.75	1.278	1																
TRUS3	5.44	1.355	.574	1															
TRUS4	5.13	1.288	.682	.698	1														
COM1	5.01	1.374	.195	.191	.137	1													
BOND2	5.78	1.128	.255	.351	.322	.474	1												
BOND3	5.42	1.155	.192	.367	.302	.543	.630	1											
BOND4	5.26	1.554	.125	.177	.169	.670	.537	.657	1										
SHAR1	3.85	1.445	.259	.197	.277	.404	.238	.292	.342	1									
SHAR2	3.78	1.319	.294	.229	.276	.268	.180	.174	.139	.685	1								
SHAR4	4.08	1.451	.277	.296	.321	.222	.221	.286	.250	.493	.598	1							
EMPAT1	4.07	1.432	.319	.325	.369	.352	.222	.282	.259	.572	.505	.543	1						
EMPAT2	4.08	1.394	.258	.219	.213	.374	.149	.182	.341	.481	.400	.450	.484	1					
EMPAT4	4.35	1.497	.276	.210	.200	.117	.125	.071	.127	.362	.391	.458	.367	.529	1				
RECI1	4.73	1.740	.173	.118	.155	.247	.244	.252	.132	.264	.284	.237	.292	.270	.296	1			
RECI2	5.72	1.127	.198	.282	.351	.206	.431	.420	.245	.236	.257	.244	.180	.224	.254	.285	1		
RECI3	5.03	1.583	.193	.227	.083	.273	.277	.270	.198	.194	.192	.338	.168	.276	.287	.511	.406	1	

Appendix B

B1: Summary of measurement instrument used for the study in

Chapter 2 - Measuring Network Competence in Buyer-Supplier Relationships

The instrument included an accompanying letter to explain the purpose of the study, the confidentiality of the responses, the contact details of the researcher and the estimated time it should take to complete the questionnaire. Prior to each question a full set of instructions were provided. The questionnaire consisted of two sections:

SECTION A: The Network competence of your firm

Nr	Items	Source	Scale
		Based on Ritter, <i>et al.</i> (2002)	1 = "strongly disagree" 7 = "strongly agree".
	<i>Cross-relational management tasks</i>		
1	We evaluate the way our relationship with each business partner depends on our relationship with other business partners.		
2	We organise regular meetings among those in our firm involved in relationships with our business partners.		
3	We assign people to each relationship with our business partners.		
4	We assign responsibility to people for each relationship with our business partners.		
	<i>Relationship specific management tasks</i>		
5	We use organisations apart from our existing business partners, to identify potential business partners (e.g. Chambers of commerce, consultants, industry associations, government organisations).		
6	We visit industrial fairs and exhibitions to identify potential business partners.		
7	We look at company advertisements in specialised publications to identify potential business partners.		
8	We discuss ways of collaborating with people from our business partners.		
	<i>Special qualifications</i>		

-
- 9 Our business partners have good knowledge about the way our firm works.
- 10 Our business partners have good knowledge about the way our other business partners' firms work.
- 11 Our business partners are experienced in dealing with the other business partners of our firm.
- Social qualifications*
- 12 In general our business partners mix well with other people.
- 13 Our business partners easily sense potential conflict in business relationships.
- 14 Our business partners can work out constructive solutions when there is conflict.
- 15 Our business partners can easily put themselves in another person's position.
-

SECTION B: Demographic information

This section collected information regarding:

- Whether the firm is privately, semi-government or government owned
- Whether the firm is South African or foreign owned
- Whether the firm focus primarily on domestic or foreign markets
- The Standard Industrial Classification (SIC) category of the firm
- The functional area in which respondent operates (marketing, finance, etc.)
- Firm size in terms of annual sales and number of employees
- The managerial level of the respondent
- Age of the respondent
- Ethnicity of the respondent
- Gender of the respondent
- Nationality of the respondent

End of the questionnaire

B2: The original 22-item NetCompTest scale

Cross-relational management tasks

- 1 We evaluate the way our relationship with each technical partner depends on our relationship with other technical partners.
- 2 We evaluate the way our relationship with each technical partner interferes with our relationship with other technical partners.
- 3 We organise regular meetings among those in our firm involved in relationships with our technical partners.
- 4 We assign people to each relationship with our technical partners.
- 5 We assign responsibility to people for each relationship with our technical partners.

Relationship specific management tasks

- 6 We use organisations, apart from our existing technical partners, to identify potential technical partners (e.g. Chambers of commerce, consultants, industry associations, government organisations).
- 7 We visit industrial fairs and exhibitions to identify potential technical partners.
- 8 We look at company advertisements in specialised technical journal to identify potential technical partners.
- 9 We discuss ways of collaborating with people from our technical partners.
- 10 We put people from our technical partners in contact with key people in the firm.
- 11 We put people in our firm in contact with key people from our technical partners.

Specialist qualifications

- 12 They have good relations with important people in our firm.
- 13 They have good knowledge about the way our firm works.
- 14 They have good knowledge about the way our technical partner firms work.
- 15 They are experienced in dealing with the technical partners.

Social qualifications

- 16 They easily communicate their needs to others.
- 17 They confidently handle negotiations with others.
- 18 They mix well with other people.
- 19 They easily sense potential conflict.
- 20 They can work out constructive solutions when there is conflict.
- 21 They can easily put themselves in another person's position.
- 22 They can easily understand other people's behaviour.

Source: Ritter, Wilkinson, and Johnston (2002)

Appendix C

Summary of measurement instrument used for the study in:

Chapter 3 - Exploring the relationship between network competence, network capability and firm performance: A resource-based perspective in an emerging economy

The instrument included an accompanying letter to explain the purpose of the study, the confidentiality of the responses, the contact details of the researcher and the estimated time it should take to complete the questionnaire. Prior to each question a full set of instructions were provided. The questionnaire consisted of three sections:

SECTION A: Network Competence.

Nr	Items	Source	Scale
		Based on Ritter et al, (2002) as adjusted by Human (2009)	1 = "strongly disagree" 7 = "strongly agree".
Cross-relational tasks – 4 items			
1	We evaluate the way our relationship with each business partner depends on our relationship with other business partners.		
2	We organise regular meetings among those in our firm involved in relationships with our business partners.		
3	We assign people to each relationship with our business partners.		
4	We assign responsibility to people for each relationship with our business partners.		
Relationship specific tasks – 4 items			
5	We use organisations apart from our existing business partners, to identify potential technical partners (e.g. Chambers of commerce, consultants, industry associations, government organisations).		
6	We visit industrial fairs and exhibitions to identify potential business partners.		
7	We look at company advertisements in specialised journals to identify potential business partners.		
8	We discuss ways of collaborating with people from our business partners.		
Special qualifications – 3 items			
9	They have good knowledge about the way our firm works.		
10	They have good knowledge about the way our technical partners firms work.		
11	They are experienced in dealing with technical partners.		

Social qualifications – 4 items

- 12 They mix well with other people.
- 13 They easily sense potential conflict.
- 14 They can work out constructive solutions when there is conflict.
- 15 They can easily put themselves in another person's position.

SECTION B: Network Capability

Nr	Items	Source	Scale
		Based on Walter <i>et al.</i> (2006)	1 = "strongly disagree" 7 = "strongly agree".
Coordination – 5 items			
1	We analyze what we would like and desire to achieve with which partner.		
2	We match the use of resources (e.g., personnel, finances) to the individual relationship.		
3	We inform ourselves of our partners' goals, potentials and strategies.		
4	We judge in advance which possible partners to talk to about building up relationships.		
5	We appoint coordinators who are responsible for the relationships with our partners.		
Relational Skills – 5 items			
6	We discuss regularly with our partners how we can support each other in our success		
7	We have the ability to build good personal relationships with business partners.		
8	We can put ourselves in our partners' position.		
9	We can deal flexibly with our partners.		
10	We almost always solve problems constructively with our partners.		
Partner Knowledge – 4 items			
11	We know our partners' markets.		
12	We know our partners' products/procedures/services.		
13	We know our partners' strengths and weaknesses.		

14 We know our competitors' potentials and strategies.

Internal Communication – 5 items

15 In our organization, we have regular meetings for every project.

16 In our organization, employees develop informal contacts among themselves.

17 In our organization, communication is often across projects and subject areas

18 In our organization, managers and employees do give intensive feedback on each other.

19 In our organization, information is often spontaneously exchanged

SECTION C: Demographic information

This section collected information regarding:

- Whether the firm is privately, semi-government or government owned
- Whether the firm is South African or foreign owned
- Whether the firm focus primarily on domestic or foreign markets
- The Standard Industrial Classification (SIC) category of the firm
- The functional area in which respondent operates (marketing, finance, etc.)
- Firm size in terms of annual sales and number of employees
- The managerial level of the respondent
- Age of the respondent
- Ethnicity of the respondent
- Gender of the respondent
- Nationality of the respondent

The following perceptual scale for firm performance:

Nr	Items	Source	Scale
		Based on Fynes and Voss (2002) and Homburg <i>et al.</i> (2004)	1 = "worst than our strongest competitors" and 7 = "better than our strongest competitors".
1	Annual sales growth		
2	Customer retention		
3	Return on Investment (ROI)		
4	Marketshare		

End of the questionnaire

Appendix D

Summary of measurement instrument used for the study in:

Chapter 4 - The Mediating Effects of Relational Drivers in a Business-to-Business Buyer Network

The instrument included an accompanying letter to explain the purpose of the study, the confidentiality of the responses, the contact details of the researcher and the estimated time it should take to complete the questionnaire. Prior to each question a full set of instructions were provided. The questionnaire consisted of four sections:

In order to protect the identity of the focal firm a fictitious name, ABC, is used to replace its actual name in this section.

SECTION A: Antecedents of Relationship Satisfaction.

Nr	Items	Source	Scale
<i>Perceived Product Quality</i> – 3 items		Based on Matzler (2004), Chakraborty <i>et al.</i> (2007) and Zeelenberg and Pieters (2004)	1 = “strongly disagree” 7 = “strongly agree”.
1	ABC products are cutting edge.		
2	The software purchased from ABC has met my expectations.		
3	ABC products provide all the functionality I need.		
<i>Perceived Service Quality</i> – 6 items		Based on Busacacca and Padula (2005) and Matzler (2004)	1 = “strongly disagree” 7 = “strongly agree”.
4	We get visited frequently enough by ABC Key Account Managers.		
5	I feel that it is easy to lodge complaints with ABC.		
6	I am happy with the time taken to reach a support consultant.		

7	I am happy with the time ABC take to solve my problem.		
8	The ABC technicians are helpful.		
9	ABC technicians are experts.		
Relationships Satisfaction – 3 items		Based on Larges <i>et al.</i> (2008)	1 = “strongly disagree” 7 = “strongly agree”.
10	Overall we are satisfied with ABC.		
11	We are pleased with what ABC does for us.		
12	Both us and ABC contributes to the relationship.		

SECTION B: Relational Drivers

Nr	Items	Source	Scale
Trust – 3 items		Based on Morgan and Hunt (1994)	1 = “strongly disagree” 7 = “strongly agree”.
13	ABC can be trusted.		
14	ABC can be counted on to do what is right.		
15	ABC has high integrity.		
Commitment – 3 items		Based on Palmatier (2008)	1 = “strongly disagree” 7 = “strongly agree”.
16	We are willing to go the extra mile to work with ABC.		
17	We are committed to maintain our good business relationship with ABC.		
18	We view the relationship with ABC as a long-term partnership.		
Information sharing – 3 items		Based on Denize and Young (2007).	1 = “strongly disagree” 7 = “strongly agree”.
19	ABC shares information with us that helps our decision making.		
20	I provide ABC with feedback about my experience with their products or services.		

21	Our firm shares information with ABC to enhance their commitment to the relationship.
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SECTION C: Relational Outcomes

Nr	Items	Source	Scale
	Attitudinal Loyalty - 3 items	Based on Palmatier <i>et al.</i> (2008)	1 = "strongly disagree" 7 = "strongly agree".
22	We plan to do more business with ABC.		
23	It is unlikely that we will terminate or relationship with ABC.		
24	If ABC sold other products I needed, I would first consider them before looking at another supplier.		

SECTION D: Demographic information

This section collected information regarding:

- Gender of the Respondent
- Age of the respondent
- Industry application
- Education of the respondent

End of the questionnaire

Appendix E

List of studies included in analysis for impartial cross-referencing of chapter 5 results.

Crosby et al. 1990, JM
 Moorman et al., 1992, JMR
 Han et al. 1993, IMM
 Storbacka et al. 1994, IJSIM
 Morgan and Hunt, 1994, JM
 Menon et al. 1996, JAMS
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 Leuthesser, 1997, IMM
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