

**SUPPLY CHAIN RELATIONSHIPS AS PREDICTORS OF SUPPLY CHAIN
PERFORMANCE IN SOUTH AFRICAN SMEs**



NEMATATANI PFANELO

Student Number

209080183

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Supervisor: Prof. Richard Chinomona

Co-supervisor: Dr. Ken Mathu

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DECLARATION

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

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STATEMENT 1

This dissertation is being submitted in partial fulfilment of the requirements for the degree of Magister Technologiae: Logistics

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This dissertation is the result of my own independent work/investigation, except where otherwise stated. Other sources are acknowledged by giving explicit references. A list of references is appended.

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ABSTRACT

The growth and development of SCM is attributed to number of factors such as partnership, collaboration, integration and relationship commitment. Despite increasing awareness of the importance of joint venture to organisations, research on the supply chain relationships (supply chain partnership, collaboration, integration and relationship commitment) and performance have received little attention. Therefore, using a data set of 271 individuals from the small and medium enterprise (SMEs) sector in South Africa, this study examines the influence of supply chain partnerships on collaboration, collaboration on integration, integration on relationship commitment and relationship commitment on performance. Structural equation modeling (SEM) method was used to analyses the data collected whereby individuals agrees with that supply chain relationships increase performance in the work environment. The study has developed a supply chain management (SCM)-based performance measurement system (PMS) for the case of SMEs. Such a framework may help SMEs managers to establish their own supply chain functions and strategically plan improvements for weak areas.

In addition, it may remain helpful for benchmarking current practices with industry norms requirements. Quite often, companies dealing with a large number of performance measures derived and expanded based on the suggestions from employees, consultants and past experiences (history) forget to realise that supply chain performance measurement can be better addressed when they joint venture.

Keywords: Supply Chain Partnerships, Collaboration, Integration, Relationship Commitment and Supply Chain Performance.

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LIST OF ACRONYMS

AVE= Average variance extracted

CFA= Confirmatory factor analysis

CFI =Comparative fit index

CFI= Comparative fit index

CPD= Collaborative product development

CPFR= Collaborative planning, forecasting and replenishment model

CR =Composite reliability

ESCM =Environmental supply chain management

EU= European Union

GFI= Goodness of fit index

IFI= Incremental fit index

TLI= Tucker–Lewis index

NFI= Norm fit index

PSCP = Practice of strategic supply chain partnership

RC =Relationship commitment

RDT= Resource dependence theory

RMSEA =Root mean square error of approximation

SCC= Supply chain collaboration

SCI =Supply chain integration

SCM= Supply chain management

SCP = Supply chain partnership

SCP1=Supply chain performance

SD= Standard deviation

SEM= Structural equation modeling

SME= Small and medium enterprises

PMS= Performance measurement system

SSCP= Strategic supply chain partnership

CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Supply management performance has a titanic impact on the growth of the organisation and is a significant strategic tool for firms striving to achieve competitive advantage (Tan 2000:44). Inter-organisational and multi-dimensional that implement a supply chain performance measurement system can achieve a large number of metrics and difficulty in sharing data throughout the supply chain, making it impossible to maintain supply chain performance (Ganga & Carpinetti 2011:177). Supply management performance is important to organisations and is of interest to both mutually practitioners and academicians. Therefore, the existing management literature is packed with empirical research on experience of manufacturing company production (Lee, Kim & Kim 2007:815; Watsona, Cooper, Pavur & Torres 2011:2190; Chang, Chang, Ho, Yen & Chiang 2011:815). The general observation therefore is that most of the prior research largely focused on the influence of IT on firms performance (Spanos & Lioukas 2001:909; Rivard, Raymond & Verreault 2006:39; Sarkees 2011:786) in countries that are developed and in the environment of large firms.

Many studies tend to investigate the performance of supply management using market and financial criteria within the organisation that implement return on overall competitive position, investment, growth of sales, profit on sales, market and market share (Vickery, Droge, Yeomans & Markland 1995:15). Coordinating activities among buyer and supplier can be difficult in supply chain collaboration. Through reducing cost, increasing service level, better utilization of resources, and effectively responding to changes in the market place, both parties can improve the supply chain performance (Simchi-Levi 2008:149).

The study investigates how supply chain partnership, collaboration, integration and relationship commitment influence firms performance in South African SMEs. Companies that aim to improve supply chain performance can develop long-term relationships with their partners and increase the level of internal and external integration. According to Zhao, Huo, Flynn and Yenung (2008:369), relationship commitment to the customer may influence customer

integration. By investigating supply chain partnerships, collaborations, integration and relationship commitment on supply chain performance, the researcher hopes to make a contribution to knowledge in the field of enquiry.

The study follows the following outline:

- Declaration of the problem statement
- Background to the study
- Hypotheses
- Methodology
- Findings and analysis
- Implications and limitations
- Recommendations for future research.

1.2 PROBLEM STATEMENT

Drawing from the identified research literature, the dissertation declared the study purpose. Previous studies on supply chain partnerships, collaborations, integration and relationship commitment focused on large size business to business (B2B hereafter) firms and appear to have paid little attention to the small and medium enterprises (SMEs hereafter). Given that SMEs are regarded by many as the providers of employment and contribute to the development and economic growth in both developing and developed countries this is unfortunate and surprising (Biekpe 2004:30).

Previous researchers have indicated that manufacturing organisations exercise channel power, In the context of the SMEs manufacturing sector that is dominated by many manufacturing businesses may seek channel power when the SMEs manufacturers' short-term and long-term goals. According to Chinomona and Pretorius (2011:172), the outcomes of the relationship in such an inverse situation have not been widely examined in the literature relating to distribution and marketing channels and therefore, they suggest further empirical scrutiny within SMEs.

1.2 PURPOSE OF THE STUDY

The primary focus of the study is to investigate the influence of supply chain partnerships, collaborations, integration and relationship commitment as predictors of supply chain performance in South African SMEs.

1.3 RESEARCH OBJECTIVES

The primary focus of the study is expressed in terms of two research objectives namely theoretical and empirical objectives. Theoretical objectives uses specific statements which define measurable outcomes and empirical objectives state how the will be achieved.

1.4.1 Theoretical objectives

- Review the literature on supply chain partnerships
- Review the literature on supply chain collaboration
- Review the literature on supply chain integration
- Review the literature on relationship commitment
- Review the literature on supply chain performance.

1.4.2 Empirical objectives

- Investigate the influence of supply chain partnerships on supply chain collaboration
- Investigate the influence of supply chain partnerships on supply chain integration
- Investigate the influence of supply chain collaboration on relationship commitment
- Investigate the influence of supply chain integration on relationship commitment
- Investigate the influence of relationship commitment on supply chain performance.

1.5 RESEARCH QUESTIONS

- Do supply chain partnerships influence supply chain collaboration?
- Do supply chain partnerships influence supply chain integration?
- Do supply chain collaboration influence relationship commitment?
- Does supply chain integration influence relationship commitment?

- Does relationship commitment influence supply chain performance?

1.6 RESEARCH DESIGN AND METHODOLOGY

According to Parahoo (1997:142), research design is “a plan to describe how, when and where data are to be collected and analysed”. In this study, the researcher will use a non experimental research design, adopting a quantitative research approach that is exploratory, descriptive and contextual. Research methodology is defined “as a system of explicit rules and procedures upon which research is based and against which claims for knowledge are evaluated” (Frankfort, Nachmias & Nachmias 2007:47). Robson (2011:89) defines the term as the hypothetical, rational and supporting settings to social research and their inference in the application of conducting of certain research methods. It is therefore, according to Denzin and Lincoln (2000:58) and Creswell (2009:112), a system of analysis that directs a set of processes.

Petty (2012:269) assert that the term refers to a procedure that is employed for the purpose of acquiring and evaluating data to create new knowledge. Research methodologies have an influence on the validity and the potential for generalization of a study (McGrath & Brinberg 2003:115) and play a vital role in knowledge development (Yang, Wang & Su 2006:601).

1.6.1 Quantitative approach

A quantitative approach enables the researcher to obtain information about the influence of supply chain partnerships, collaborations, integration and relationship commitment as predictors of supply chain performance in South African SMEs.

1.6.2 Target population

Target population is defined by Parahoo (1997:218) as “the total number of units from which data can be collected”, such as, organisations, events or individuals. Burns and Grove (2003:213) add that target population is all the fundamentals that encounter the criteria for addition in a study. In this study the organisations targeted were SME manufactures within the Gauteng Province in South Africa.

1.6.3 Sampling method

Burns and Grove (2003:31) describe sampling as “a process of selecting people, events or other elements for conducting a study”. Burns *et al.* (2003:255) describe purposive sampling as a sampling method whereby researchers use their own judgment in selecting the participants to include in the study. Polit, Beck and Hungler (2001:467) describe non-probability sampling as “the selection of sampling units from a population using non-random procedures such as convenience, purposive and quota sampling”.

1.6.4 Data collection

In a quantitative research, the researcher is responsible for collection the primary data. The researcher needs may set aside any ideas or beliefs that are preconceived so they stop obstructing with or leading the participant’s understanding when collecting data (Parahoo 1997:296).

1.6.5 Research instrument

Data was collected using a structured questionnaire comprising statement anchored on a 5-point Likert scale, the method used to collect the data is personal interviews and the collection of data was analysed by using AMOS 7 software.

1.7 DATA ANALYSIS

Quantitative methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires and surveys, or by manipulating pre-existing statistical data using computational techniques (Muijs and Daniel 2010:57). The study uses quantitative research, focusing on gathering numerical data and generalising it across groups of people or to explain a particular phenomenon.

1.8 JUSTIFICATION FOR THE STUDY

Given that the SMEs sector uphold the economic growth of the country (Chinomona, Lin, Wang & Cheng 2010:110), as a result of an ironic impact of supply chain partnerships, collaborations, and supply chain relationship quality as predictors of supply chain performance in the South African SMEs it has largely been neglected by researchers. Indeed, such an inquiry is imperative

and is likely to contribute to our deeper understanding of the relationship between these constructs.

The activities of a large organisation and those of SMEs are different (Sieger, Bernard & Frey 2011:88). It is therefore logical to suppose that the findings of research into both should be different. This necessitates an empirical confirmation or rejection of the applicability of previous findings from studies conducted in large organisations to SMEs; hence, the need for this study. It should also be noted that many of these studies on large firms emanate from developed countries (Chinomona & Pretorius 2011:60). It has been argued in previous research that naive and not judicious developing countries accept that outcomes from advanced countries apply in developing countries such as those in Southern Africa (Chinomona *et al.*, 2010:53).

Given the uniqueness of developing countries in Africa such as South Africa, the results can be expected to be different in each case. The effects of supply chain partnerships, collaborations, integration and relationship commitment as predictors of supply chain performance in the context of SMEs in Africa is a study that gathered little attention.

1.9 SCOPE OF THE STUDY

Data collect for this study will enable a survey of small medium enterprise (SMEs) within Gauteng province of South Africa was undertaken. The geographical delimitation was necessary because in the South African context, over 40 percent of all firms (including listed companies) are classified as SMEs.

1.10 VALIDITY AND RELIABILITY FOR THE STUDY

It is valid if the instrument it measures what it is planned to measure and perfectly achieves the purpose for which it was designed (Patten 2004:203; Wallen & Fraenkel 2001:110). Patten (2004:204) emphasises that validity is a matter of degree and discussion should focus on how valid a test is, not whether it is valid or not. According to Patten (2004:204), no test instrument is perfectly valid. The researcher needs some kind of assurance that the instrument being used will result in accurate conclusions (Wallen *et al.*, 2001:111).

Validity involves the appropriateness, meaningfulness, and usefulness of inferences made by the researcher on the basis of the data collected (Wallen *et al.*, 2001:112). Validity can often be thought of as judgmental. According to Patten (2004), content validity is determined by judgments on the appropriateness of the instrument's content. Patten (2004:204) identifies three principles to improve content validity: use a broad sample of content rather than a narrow one, emphasise important material and write questions to measure the appropriate skill.

Reliability, like validity, is a way of assessing the quality of the measurement procedure used to collect data in a dissertation (Wallen *et al.*, 2001:117). In order for the results from a study to be considered valid, the measurement procedure must first be reliable. In quantitative research, the measurement procedure consists of variables; whether a single variable or a number of variables that may make up a construct. The reliability of these variables measured are stable or constant, is central to the concept of reliability (Wallen *et al.*, 2001.110).

1.11 ETHICAL CONSIDERATIONS

Ethical codes in research for most professions are an important part of their overall ethics, though some research bodies have evolved their own codes, ethical issues can be examined as they relate to participants, researchers and sponsoring organisations (Kumar 2005:216). In the study special consideration was given to the right to privacy, confidentiality and anonymity of research participants. The right to equality, justice, human dignity/life and protection against harm was ensured. Given that human subjects were involved care was taken to draft and have approved, letters of consent, (See Addendum for copy of the Letter of Consent). It was also made clear to the participants that they had the right not to participate or to withdraw from participation in this research at any point.

1.12 OUTLINE OF THE STUDY

This study is composed of the following six chapters:

Chapter 1: Introduction

This describes the research background. It provides the purpose of this research, the research objectives, the questions of the research and the research outlines flow and the dissertation structure.

Chapter 2: Literature review.

Partnership theory is reviewed. Supply chain partnership, collaboration, integration and relationship commitment as predictors of supply chain performance in South African SMEs are reviewed.

Chapter 3: Conceptual model and hypotheses development.

Based on the research constructs grounded in theory, conceptual models are built and research hypotheses developed.

Chapter 4: Research design and methodology.

Research sampling, measures and data collection procedure are provided in this section of the dissertation.

Chapter 5: Data analysis and interpretation.

Statistical techniques are used to check for the measurement reliability, validity and the research model fit (confirmatory factor analysis - CFA) using SPSS and AMOS 7 software programs.

Chapter 6: Conclusions, implications and overall dissertation contributions.

The overall concluding remarks informed by the findings of this dissertation are given. Practical recommendations to the practice of distribution channel management are provided. Finally, future research directions are indicated and the overall dissertation contributions provided.

1.13 SUMMARY OF CHAPTER 1

Chapter 1 has ten motives provided in ten sections. The first section provided the introduction or preamble to the dissertation. The unit was tailed by the identification of research gap in form of the problem statement as the lacuna that this dissertation is set to fill. The statement of the

purpose provided the third research objective. The research questions were then articulated, which led to a consideration of the methodology and the research design. A sixth section covered the justification of the study. The seventh section elucidated the scope of the study. Validity and ethical considerations were dealt with next after reviewing the outline of the research, the research limitations section provided insights for future research direction. A diagrammatic representation of chapter 1 below:

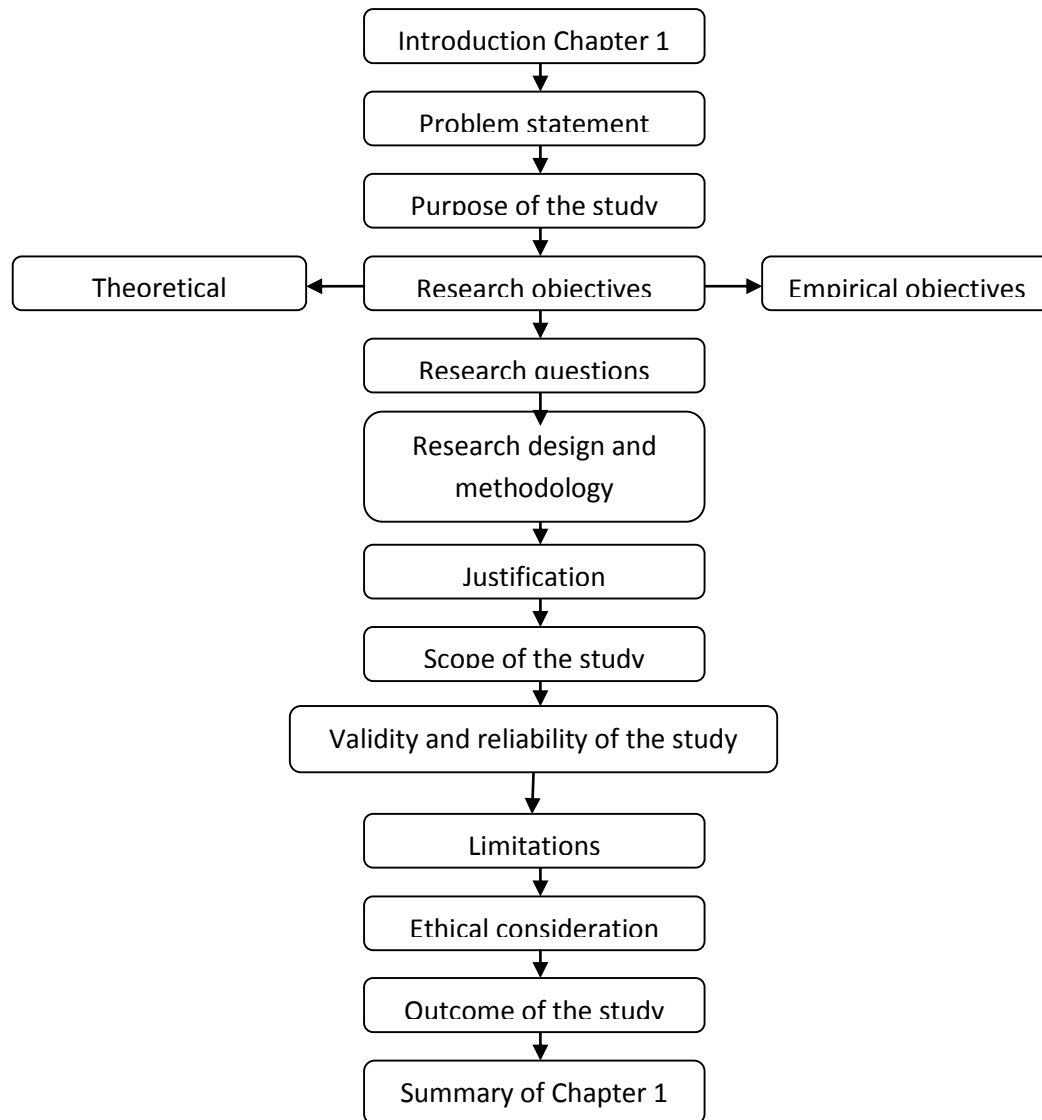


Figure 1.1: Diagrammatic representation of Chapter 1 summary

Source: Own

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Chapter 2 reviews the literature and it is divided into two sections; the theoretical and the empirical review of literature. The theoretical review section reviews the partnership theory upon which this study is grounded. Therefore, this section of the study will commence with theoretical review of SMEs, followed by partnership theory. The empirical literature review section focuses on reviewing empirical evidence related to the dissertation research constructs. In particular, there are five research constructs used in this dissertation and these are supply chain partnerships, collaborations, integration, relationship commitment and supply chain performance.

2.2 THEORETICAL REVIEW

2.2.1 Small and medium enterprises (SMEs)

SMEs operate the same as large organisations without the benefits such as extended human, capital and marketing resources of their large counterparts even if they are operating in the same business environment (Smit & Watkins 2012:6324). SMEs find it difficult to compete with large organisation due to an increasing pressure in the market environment (technological, innovation, population grown and climatic change), fuelled by globalisation, trade barriers and legislation. SMEs form a special relationship with their close customers, often flourish on their adaptability and agility, willing to learn new ways of doing things and will take risks that will benefit the organisation, but many in a micro and small enterprise may face exterior surprises (Berry 2002:4; Laforet and Tann 2006:363).

SMEs may face challenges when dealing with the obstacles; that is, the risk faced by the organisation and they must develop a strategy in which they can deal with the increasing challenges (Leopoulos 2006:225). SMEs managers must be able to identify the risk associated with their organisation so that they cannot face the consequences of losing their customers to big organisations, managers need to pay full attention and analyse the associated risk. When SMEs are able to identify the associated risk, they are better equipped to face the changing market

environment, thereby coming up with new ways that will have a positive return (Banham 2004:65).

2.2.2 SMEs in South Africa

As SMEs are characterised by flexibility (Kayanula & Quartey 2000:6) and possess the ability to create a considerable number of jobs (Fida 2008:65), they hold a compelling claim to augmented relevance and it is understandable that strategies have been implemented in an effort to expand the growth of the sector into conventional economic activities worldwide (Luiz 2002:53). Small businesses contribute to the national merchandise of the country significantly, either by the production of valuable goods or complete the rendering of services to organisation and other consumers (Abor *et al.*, 2010:223). They enhance the proficiency of domestic markets, have the ability to make scarce resources use productive, thereby, aiding the effort towards future economic growth through creativity (Kayanula *et al.*, 2000:6) and they supply products and services to foreign buyers and, in so doing, contribute in their way to export performance (Abor *et al.*, 2010:223).

According to Feeney and Riding (1997:68), the growth of the country by development of the small firms plays an important and vital role. It is conceivably for this reason that Kongolo (2010:2290) urges the government to recognise and acknowledge SMEs as a significant part of South Africa's development process. The contribution of SMEs differs considerably across countries. Small, medium and micro organisations dominate South Africa's economy (Sawers *et al.*, 2008:173). According to Butcher (1999:21), SMEs play a crucial role in the growth of the South African economy and are to a very large extent, associated with the empowerment of trade and industry, construction of job and employment in disadvantaged communities (Davies 2001:4). The sector encompassing small medium and micro firms accounted for 93 percent of all enterprises contributing 27-34 percent to the total gross domestic product (GDP) in 2006 and was responsible for 38 percent of employment in the country. In spite of the elevated level of unemployment anticipated at 25.2 percent (South African Statistics 2014), total contribution in SMEs may be significant if the country is to progress towards optimum development. In particular, small firms are accountable for a large percentage of employment in South Africa since they represent the majority of SMEs (nearly 70%) in comparison to medium-sized and

micro firms who constitute about 15 percent, (Jeppesen 2005:469). Nonetheless, SMEs are not only perceived as the creators of employment but are also adopters of economized individuals approaching from the community and remote sector (Ntsika 2001:45). Such actions by SMEs have garnered praise, which is evident from the 2003 South African Human Development Report (UNDP 2003).

South Africa is engaging more in the world economy and in a transition to globalisation while battling against challenges such as poverty and unemployment (Sawers & Fearn 2008:172), income inequality (Maas & Herrington 2006:21), low economic growth, high inflation (Fatoki 2011:193) and uncertain market conditions (Urban & Naidoo 2012:150) the government has come to view SMEs development as a matter that is of utmost importance (Sawers *et al.*, 2008:172). The belief is that the SMEs can not only alleviate difficulties, but they can also enhance the competitiveness of the country (Kesper 2001:8; Swanepoel, Strydom & Nieuwenhuizen 2010:60; Sawers *et al.*, 2008:172; Maas *et al.*, 2006).

According to Kongolo (2010:2290) small businesses in comparison to large-scale businesses have more advantages in that they have the ability to adjust to market conditions with ease and can withstand unpleasant economic conditions given their supple character. Since SMEs demands more than larger firms therefore they have little capital costs, they possess the ability to fluently address the high levels of unemployment in South Africa (RSA 1995:10). In actual fact, in 1995 the National Strategy for Development White Paper and influencing on Small organisation in South Africa (RSA 1995:10), identified SMEs not only as key to unemployment alleviation but also as drivers for:

- Stimulating local competition through the creation of market niches and unlocking opportunities by tapping into international markets;
- Redressing the disparities that exist as a result of the Apartheid period and
- Buffering the endorsement of Black Economic Empowerment vital role in the process of supporting people with basic needs.

2.2.3 Defining SMEs

According to Smit and Watkins (2012:6324) the term SME or SMME is used globally but there are no widely accepted definitions of these terms. Legislation in geographical placement inspired numerous definitions of SMEs (Leopoulos 2006:225). South Africa is governed by legislation (the National Small Business Act 102 of 1996 (South Africa 1996) amended by Act 29 of 2004 (South Africa 2004) that categorised less profitable businesses into four types (micro enterprise, small enterprise, survivalist enterprise and medium enterprise), which are defined by the number of employees that the organisation is having (Von Broembsen 2003:85).

2.2.4 Importance of SMEs to the economy

There is an increasing rise of SMEs in many African countries such as Ghana, Togo, Cote d'Ivoire, Nigeria, Burkina, Uganda and others as they see the importance of small business (Smit *et al.*, 2012:6325). SMEs play an important role in economy of countries like the United States of America and the United Kingdom which provide employment to estimated one third to the industrial sector, gaining less percentage of productivity than other nations. When SMEs oversee economically in Third World countries, they are lucky to be considered more important than in the first World countries that is dominated by many SMEs (Rwigema & Karungu 1999 101).

According to Rogerson (2001:115) the activities of SMEs are vitally important for enhancing the economic growth, creating employment and poverty reduction in the country. However, researchers such as Mead and Liedholm (1998:61) have found that in Africa on average there are more SMEs shutting down than opening. Since the democratic transition in the South African economy it has been the main focus to increase competitiveness by generating employment and economic growth in the country (Rogerson 2006:54). In order to accommodate the SMEs environment, the South African government introduced the amended National Small Business Act of 1996 with Act 29 of 2004 to implement different standings to SMEs in the economy of South Africa (Rwigema & Venter 2004:101; Ntsika 2001:3).

Human Development Report (UNDP 2003) highlighted that SMEs contribute in addressing sustainable development (job creation) for the growth of South African economy (Rogerson

2004:765). It is estimated that 90 percent of all formal business are SMEs which make it the biggest contribution to the South African economy, attracting people who were retrenched by the private and public sector (Smit *et al.*, 2012:6325).

SMEs create more than 75 percent of new jobs, In Asian countries; SMEs employment contributes more than 80 percent (Friedrich 2004:51). The majority of SMEs in South Africa are micro and show no evidence of grow because of the inadequate deference in organisation dynamics (Smit *et al.*, 2012:6327).

The South African government view SMEs as a means of achieving economic growth, However, the high failure rate 80 percent of enterprises in the SMEs make it hard to achieve the objectives (Van Niekerk 2005:51). The growth of SMEs depends on the growth of macro-economic, from the past few years; a drop in the growth of micro economics has inhibited entrepreneurial performance and the full potential growth of the SMEs (Berry 2002:4). Lack of managerial skills can cause SMEs to fail. SMEs in South African refuse to share the best governance laws such as the employment of noncompulsory of King III (King 2009).

2.2.5 Critical success factors for SMEs

According to Wong (2005 261) and Jun and Cai (2003:192) SMEs are scarce in resources (time, human resource and capital resources). A number of studies have recognised a number of aspects that can lead to success for the SMEs, Rogerson (2001:115) states that “human capital” or “brain power” has a positive impact on the growth of organisation and leads it to fail or succeed. Human capital is viewed to be a important factor established in a study that was conducted based on African enterprises were an organisation that implement training and education for its employees has a high chance of succeeding (Rogerson 2001:117). A study based on the accomplishment factors in SMEs in Gauteng, South Africa found that a lack of technical and managerial skills to guide the success of the business (Rogerson 2008:61). Research done on SMEs incompetent in South Africa exposed that failures are initiated by lack of managerial training and skills; however, education and skill development are not solutions to the challenges facing the growth of SMEs (Rogerson 2008:61).

Many researchers (Berger & Udell 2001:36; Reynolds & Lancaster 2006:395) have found growing evidence that small organisations have a higher chances of failing within the first five years of trading due to financial and management difficulties. Capital is a major constraint that many African SME experience when entering into a new market environment when they depend more on personal loans and savings from family members as a starting capital source (Rogerson 2001:118 & Skinner 2005:65). In order to enhance the enterprise environment, SMEs must implement key elements (skill, finance and business training) to improve the competitiveness of the enterprise (Rogerson 2008:66).

2.2.6 Problems experienced by SMEs

According to Kesper (2000:7) while SME owners are more aware of the activities that take place within their enterprise, they are often not able to identify the external frequently factors that impact the enterprise as a whole. According to Naicker (2006:6), the following are problems experienced by SMEs:

Economic based problems: The local economic conditions have an influence on the success of SMEs because the macro economy is the same rate as sectors market growth as a whole, therefore, SMEs will usually also experience difficulty if there is an economic downturn (Berry *et al.*, 2002:5).

Enterprise based problems: Internal factors such as human resources (lack of planning, multi-functional management, extraordinary income per employee, incompetent skill development, and low productivity) may lead the SMEs to a downfall (Rogerson 2004:766; Williamson 2000:27; Watt 2007:22). According to O’Gorman (2001:60), the lack of management skill and training (lack of experience and organisation culture understanding) is an important cause of business failure not only influencing owner perceptions regarding the way they operate their business. The characteristics that are implemented by owners can also contribute to the decrease of uplifting of management skills, style and personality attitude towards change (Leopoulos 2006:230; Naicker 2006:55). According to Pretorius and Shaw (2004:221), SMEs have difficulties when they want to be financial assisted by South African bankers due to the risks that are associated with SMEs, which is emphasised by the micro surveys done in South Africa, with capital being the most important factor that lead to the down fall of SMEs. Lack of enterprise

information, insufficient knowledge and general lack of communication of SMEs contribute to the complex of financial problems leading to a high failure rate and low levels of management of South African SMEs (Rajaram 2008:53).

Industry related problems: The increased competition, low demand, inefficient marketing, limited market size, reduced competitors, market understanding and poor location and the inability to identify the target market exerts the most negative influence on the success of the SMEs (Naicker 2006:58; Watt 2007:38). SMEs in South Africa are faced by structural problems in that South African SMEs look for information on SMEs in other developed countries, they do not compete with large organisation with capital and specialized goods or services, but they compete in the same market environment with large organisation (Rogerson 2004:770). SMEs owner managers must be able to identify arrears in their organisation that are giving them problems. When owner-managers identify problem areas, they are able to solve the problems through training, education and data retrieving activities (Huang & Brown 1999:73).

2.2.7 Risk exploiting in SMEs

Risk management can be viewed as short-term and long-term financial constraints, as it is escalated above other issues that infect efficient and effectiveness of the SMEs (Plourd 2009:66). It is important for SME organisation to be able to implement risk management strategies. The organisation must participate in managing risk activities to deal with meeting the economy climate conditions that where crisis risk can lead to increase government credit, fluctuating commodity prices, unemployment rising and reduction in the spending of consumers, which impact on enterprises (Smit *et al.*, 2012:6330). Organisations may view enterprise risk management (ERM) as a competency that enables business owner-managers to optimize opportunities associated with risk (Hofmann 2009:14).

According to Engle (2009:45), ERM should implement basic risk management and risk champions exposures across the entire enterprise such as operation risk, capital risk, strategic risk and compliance regulatory risk where it must not only be viewed as a process. An enterprise can pursue its risk management structure approach aggressively and efficiently as management can be able to identify the risk associated with each activity that they engage in, thus becoming more profitable will resolve in cost reducing (Ntlhane 1995:32).

2.2.8 Risk management for small and medium business

Companies are concerned about risk and risk management, especially SMEs that do not have the resources to maintain business risk and competition associated with the organisation (Alquier & Lagasse 2006:273). In a small and medium sized enterprise, the owner-manager assessment on how to deal risk may relate to the business (Watt 2007:53). Risk controlling principles reply to all enterprises; however the attitude towards risk management by the owner-manager influences the risk management actions deployed in the enterprise (Ntlhane 1995:33). In order for small and medium sized enterprise to recognise future uncertainty, possible effects and manifestation deliberating risk as a core principle, they must formulate plans to reduce the impact of risk to the organisation (Ntlhane 1995:33). Owner-managers must be able to analyse and identify risk to ensure that they are calculated. According to Watt (2007:55), entrepreneurs should implement the following process for risk management:

- SMEs tactic risk must established;
- Determining the desire of SMEs risk;
- The assessment, risk identification; and
- Manage the risk.

When planning and executing business strategies owner-managers should take cognisance of managerial risk that may arise, entrepreneurs do not have control over risk but it should not stop them from anticipating the risk and increasing risk management to achieve the goal of the organisation (Berkeley, Humphreys & Thomas 1991). South African SMEs owner-managers should pay special attention to ways that they can reduce risk, jeopardy management principles can help guide them improve the performance of the organisation, however, many SMEs only pay attention once they have identify the risk not planning for the long run (Dupre 2009:33).

2.2.9 Components of risk in SMEs

According to St-Pierre and Bahri (2006:546), the risk components of SMEs management are complex due to the difficulty in separating property and great heterogeneity from owner-managers. Strategic information (quality and satisfaction) and innovation can reflect the competitiveness of the organisations performance, but not the income earned by the organisation

(St- Pierre *et al.*, 2006:546). Employee satisfaction, client loyalty and internal processes can be seen as a long-term maintainable financial enactment attributable to no financial elements (Cumby & Conrod 2001:261). The problem that faces SMEs in South Africa is financial stability as organisation should follow a systematic approach and take into version the financial and non-financial evidence about the organisation (St-Pierre *et al.*, 2006:548).

2.2.10 SMEs inadequately manage their risk

According to Smit and Watkins (2012:6334), few SME owner-managers are aware of the risk that they might encounter and focus their actions on “loss control” such as fire, quality, safety and health assurance. Owner-managers can oversee the “loss control” alone with other duties that the organisation might encounter; therefore, the chance of increasing mismanagement and time is not spend on risk management functions. Most South African SMEs do not put structures in place that will identify and undertake the risk, SMEs owner-manager assume without planning and taking into considerate their limited financial resource (Ntlhane 1995:123). South African SMEs owner-manager can reduce the effect of risk, once the risk have been identified it need to be managed by implementing the proper process that will reduce the risk. In SMEs, risks are taken by the organisation even when it is not financial stable (Ntlhane 1995:124). SME owner-managers are not using risk reduction process such as risk avoidance and elimination, reduction and transfer or acceptance to control risk exposure; however, new risks may be created and the ones that have been identified can change (Smit *et al.*, 2012:6332). According to Ntlhane (1995:122), risk retention techniques sponsored by internal reserves (current income) are little known and not considered by many SMEs.

2.2.11 Importance of marketing for South African SMEs

According to Smit and Watkins (2012:6334), small business owner must balance their time if they are to succeed in the changing business environment a problem might arise because of them not having enough time to do it all or because of a number of required tasks in SMEs such as: personnel, staffing, accounting, sale, payroll and advertising. SMES owner-managers should pay attention to marketing to achieve balance and success in the long term (Bowler, Dawood & Page 2007:23). According to Gem (2002:1), marketing in SMEs is important to their success, partly

because marketing is more important than strategic planning as customers need to be able to identify their product from those of their competitors.

Factors in the failure and success of the organisation can be determined by the external environment; however, in order to analyse and monitor the threats and opportunities posed by conditions outside the organisation, the marketing managers should develop a market strategy (positioning, focusing and differentiation) (Kotler 2005:12). According to Smith and Watkins (2012:6334) SMEs should identify their target market, unique benefit positioning and develop valued points for their products and services that will make it difficult for competitors to copy.

2.2.12 Marketing skills for SMEs

According to Murphy (2006:13) owner-manager of small business has a certain personality that can lead the business to succeed and fail, Marketing skills can create problems for SMEs if it is not taken seriously as it determines whether the business will succeed in the long run having to deal with challenges such as understanding the market and potential for growth, market segmentation, analysing market needs, financial access, training/education, competitiveness and marketing of products and services.

2.2.13 Contribution of SMEs to the country

SMEs contribute to the country economy by implanting the following:

Cultivating wealth: SMEs create wealth by enticing demand for investment, for capital commodities and trading (Dana 2001:405; Lange Ottens & Taylor 2000:5; GEM 2006:10; Robertson, Collins, Medeira & Slater 2003:308).

Economic growth: SMEs support economic growth by establishing new markets, reviving stagnant industries and play a key role in economic expansion and enforcing a vivacious business culture (Santrelli & Vivarelli 2007:2; Pretorius & Van Vuuren 2003:514; Thomas & Mueller 2000:287; Henning 2003:2; Miller, Besser, Gaskill & Sapp 2003:215).

Economic flexibility: SMEs possess the ability to drive competition with their larger counterparts through their ability to produce small quantities, thus increasing economic plasticity (Lussier & Pfeifer 2001:228; Gibbon 2004:156; Kangasharju 2000:28).

Innovation and technology promotion: SMEs are known for introducing new products and services, excavating and serving new markets as well as endorsing technological change and entrepreneurship (Rwigema & Venter 2004:315).

Skills development: SMEs provide individuals with the opportunity to develop themselves to best suit the work environment (Gbadamosi 2002:95; Nieman 2001:445).

Capacity to improvise: SMEs are resourceful in that they often make best use of local technologies, local raw material and local knowledge base (Rwigema & Karungu 1999:112; Luiz 2002:54; Romijn 2001:58). They also have the ability to overcome crisis in relation to factors such as recessions, natural disasters and conflicts (Gurol & Atsan 2006:26; Nichter & Goldmark 2009:1459).

Socio-economic transformation: SMEs are believed to be key in empowering their local community with a particular focus on the marginalised segments, and reducing poverty through support for entrepreneurship and providing income through employment (Ladzani & van Vuuren 2002:154; Mogale 2005:135; Tustin 2001:24; Abor *et al.*, 2010:218).

Small and Medium enterprises are a sector that is perceived to serve as an entrepreneurial ‘seed bed’ where some SMEs may graduate to become larger organisation (Mcpherson 1996:254). Although the business environment greatly impacts on the development of SMEs (Delmar & Wiklund 2008:437) in South Africa, the environment is somewhat accommodative of SMEs growth as it is composed of a refined infrastructure, legal system, natural and human resources, telecommunication network and financial service. Perhaps, this is the case owing to government efforts to support the SMEs sector ever since the country became democratic (Berry, Von Blottnitz & Cassim 2002:362; Laforet & Tann 2006:363).

The government has recognised that SMEs are a pivotal force in the economy by providing employment opportunities, by encouraging entrepreneurship, and by contributing significantly to the GDP (Fatoki & Garwe 2010:59; Chinomona *et al.*, 2011:172). It has been estimated (Abor & Quartey 2010:215) that over 90 percent of all businesses in South Africa are SMEs. It can be claimed with absolute certainty then that without the valuable contribution of SMEs to the South African economy it would, in all probability, collapse.

According to the National Small Business Act of South Africa of 1996, as modified in 2003, an SMEs is “a separate and distinct entity including cooperative enterprises and non-governmental organisations managed by one owner or more, including its branches or subsidiaries if any is predominantly carried out in any sector or sub-sector of the economy mentioned in the schedule of size standards and can be classified as a SMEs by satisfying the criteria mentioned in the schedule of size standards” (Government Gazette of the Nation of South Africa 2003). However, the quantitative definition of SMEs in South Africa is expressed in Table 2.1.

Table 2.1 SMEs definition in South Africa

Type of firm	Employees	Turnover	Balance sheet
Small	1-49	R13 milion	R5 milion
Medium	51-200	R51 milion	R19 milion

Source: Government Gazette of the Republic of South Afrca (2003)

2.3 THEORETICAL FRAMEWORK: PARTNERSHIP THEORY

In order to explain the supply chain performance in South African SMEs, this study was grounded in the partnership theory. The theory argues that the popularity of partnerships is rooted in its perceived mutual benefits. On a conceptual level, partnering is a strategy that increases access to human, financial technical and intellectual resources that might otherwise be out of reach for a single organisation (Michael, Hatton & Schroeder 2011:157). In the present socio-political climate, the issue of the provision of social services has become a ‘hot’ political issue. All over the Western world appreciation has been growing for the fact that the exclusive public provision of services is becoming untenable, for a number of reasons. From the point of view of efficiency alone one has to acknowledge that the specialist skills and expertise to be found in the private sector can very often not be matched with the community sector. Pragmatism would suggest that a confluence of mutual interest could be achieved through the careful setting up of strategic private-public partnerships. Such partnerships appear to have won the support not only from local communities but also from all political parties.

Curiously enough, a problematic issue is to gain agreement between the parties on an unequivocal definition of the term 'partnership'. A factor that bedevils this attempt is the need to find a definition that can apply equally well to all the various forms of partnership that are possible. The fact that theorists such as Lyon and Hamlin (1991:55) believe that the range of possibilities for partnerships to be set up is limited only by the scope of our imagination does not help in delimiting the field.

2.3.1 Partnership definition

In South Africa the lawful definition of a partnership is as follows:

"An association of two or more people to carry on as co-owners of a business to increase profit" (Revised Uniform Partnership Act of 1994:6).

Bennett and Krebs (1994:3) define partnership as "cooperation between actors where they agree to work together towards a specified economic development objective."

There are similar explanations of partnership applicable in each country Harding (2000:85) provides an extended universal definition of 'private-public partnership'. He regards this as "any action which relies on the agreement of actors in the public and private sectors and which also contributes in some way to improving the urban economy and the quality of life" (Harding 2000:85).

The definition will, of course, vary according to the purpose for which the partnership was formed in the first place. For example, a partnership set up specifically to address urban regeneration was defined as: "the mobilisation of a coalition of interests drawn from more than one sector in order to prepare and oversee an agreed strategy for regeneration of a defined area". Bailey (1994:201). It is beyond the intention of this study to tease through the very many different definitions of the term 'partnership' used in a bewildering array of different contexts. Suffice to say that in general partnerships represent a limited pooling of human and infrastructural resources to achieve a more effective, comprehensive response to the many challenges that will have to be faced and overcome if a business enterprise is to survive and thrive in the modern world of commerce and industry.

There are many advantages to partnerships, not the least of which are the advantages to be gained from the sharing of information on business techniques and through the trading of ideas on management procedure. There are also obvious advantages to be gained from the positive effect the partnership can have in an organisation. In order to be effective the partnership must be characterised by mutual trust, the fulfilling of promises, and the sharing of business risks. Depending upon the specific nature of the businesses involved and on the business leaders themselves one should also expect there to be a reasonable degree of compatibility in the goals each leader sets so that in collaboration they can move harmoniously towards reasonably common objectives. Honesty, trust and cultural compatibility are some of the other positive factors that are prompted by successful partnerships and these qualities impact positively upon the operation of the supply chain. On the down side, a partnership cannot be sustained if the power structure of the partnership permits an unequal power relationship to exist or develop between the partners.

2.3.2 Five dimensions of partnership

What: the partnership is pursuing to do such as its perseverance and whether it is deliberate or assignment

Who: is involved; this is the important players and the organisation of their relationship in the partnership

When: the effectiveness or platform of development of the partnership method and shifting relationships and activities over time

Where: the longitudinal dimension

How: the actions are implemented.

Each of these dimensions have an efficiency and effectiveness performance on partnership and for the stability of power within it, below the dimension are explain in more details.

i. Whatever partnership is aiming?

a. Purpose

Purpose is the core aspect that best classifies partnerships. Most of the organisations entering into a supply chain partnership may gain a competitive advantage with extra resources for an area in which they operate in, organisation many association and connections and one form of possession, or improve their partner organisation. Partnerships can offer new technological ways of doing things (Mackintosh 1992:210; Hastings 1996:253). The reason why organisation chooses to partnership is to increase effectiveness or efficiency, attract extra assets and to overcome local opposition that competes with the organisation. When an organisation chooses to partner it is most often that there are differences in focus between the partners, though encounters among organisations remain common and it is crucial for each partnership to be clear where its priorities lie (McQuaid 2000:7).

b. Strategic or project driven

When looking at the long-term run of the business partnerships strategic when cover the extensive aims of the organisations and trade with major lasting problems involving only specific programmes or projects that will make the business more productive. For example, a partnership may exist in order to create a development strategy for the organisations or be set to implement and develop a certain assignment such as the expansion of a commercial park (McQuaid 2000:8).

ii. Who is involved?

a. Key actors

Central and local government, agencies, local communities and the private sector are seen as the key actors, but my also include individuals. For instance, the local communities can serve as a key partner to the organisation, The role of local communities is essential in partnerships when dealing with areas suffering deprivation (Ahlbrandt & Weaver 1987:449). The “private sector” is not massive and shields many types of resources and intentions of the organisation such as: owned firms, social responsibilities and representative organisations which differ in term of the size, type of tie to the area (local community, labour supply, small shops or estate agents) (Askew 1991:37).

b. Structure of the partnership

The proper arrangement of a partnership can range from informal or formal-legally obligatory bonds to enforce agreement between organisations entering into a partnership, According to Hailes (1986:25) it wanted to “maximise the number of local residents able to secure and retain employment both within the wider Edinburgh economy and thus increase local incomeetc.”, over machinery that encompassed “a new organisation that will provide and improve access to jobs, training and learning.” Lack of consensus among partners can cause internal tension, when partners fail to understand the obligation of the partner and the residence in the partnership; they may be too many committees to deal with (a cost of resource, the community upgrades) and the role of the professional support team that can lead to uncertainty (McGregor 1995:52). Partners may structure their relationship upon a validly requisite contracts, mostly in cases that a direct marketable operation so that the can be able to specify input and actions to undertaken. However, organisation may seeks to protect itself, which may lead to it failing to meet the contract terms even if there is a change in the situation that result to more activities to be carried out (Gutch 1992:73).

iii. When?

Time the third set of dimensions. Over time, organisations priorities may move or change their views, making the roles in partnership to change. The time to implement a plan to faster co-operation can inspire equilibrium within the partnership and contribution of partners. According to Lyon and Hamlin (1991:52), when the goals of the community are articulated can lead to termed policy formations focusing on the aims, goals and implementations on how the can be achieved the organisation. Time can cause imbalance of power between partners. In the beginning when organisation start partnering will have large influence as their reason will be seen as important as the want to get the initiative started. However when the ingenuity becomes established, then the opinions of SMEs owners are likely to be taken extra seriously.

iv. Where or whom?

Partnerships may choose to operate in a specific geographical area; that is, they can concentrate proceeding on a small range of urban areas or implementing national level policies such as issues facing local or regional level to be productive, however location is likely to cause tensions

among partners if one is located locally and the other one is based nationally (McQuaid 2000:12).

v. How? - Implementation mechanisms

The fifth dimension of partnerships concerns implementation mechanisms. This involves the responsibilities of partners to join ventures and alter primacies of standing service areas which are provided by their partner. Implementation and hybrid mechanisms are common, where a formal agreement is usually required when dealing with the latter. In the latter, operation of a free-standing public company can be developed to performance better if it implement and co-ordinate with residents and essential government (McQuaid & Christy 1999:355).

2.3.3 Potential advantages of partnership

Why does an organisation choose to collaborate when it can carry out the activities itself? The three main advantages of partnerships are resource availability, effectiveness and efficiency, and legitimacy of the organisation.

i. Resources Availability

The problem leading many organisations to partnership is the lack of available resources. Organisation may collaborate with other actors within the private and public sector so it can be effective and efficient with competing with big companies that have being in the market for many years. When resources are not available locally, economies, social and environmental problems may accrue (McQuaid 2000:14). Partnership can lead organisations to become competitive as each partner will bring something to the table making mechanisms to be achieved and avoid unnecessary efforts. Hence, many polices have underpinned urban police, in the case of EU, many organisations join ventures in order to reduce poverty. Commercial partnerships with private sectors can increase the financial availability of resources in the community such as developing firms or seeking to increase investment locally.

ii. Effectiveness and efficiency

Effectiveness and efficiency can be archived throughout improving co-ordination between or within organisations depending on the nature of the problem; hence, synergy can be created

through various organisations while reducing wasteful duplication and increasing cost saving (Webb 1991:19). When an organisation wants to enter into a new market environment, the best way to lessen error faced by customer's discovery proper agency the organisation can form a partnership with a local organisation that is known by the people. People would respond to them rather than to a company that they do n know (McQuaid 2000:17).

Partnerships can help organisations to better understand one another, by refining appreciative and information of the other business, breaking down the stereotypical views of partners towards one another option towards better implementations, making of collaboration and ways of collaborating. In the long-term, partnership can improve effectiveness and reliability trough permanence creating, improving resident assurance and minimising the risk for potential investors, partners, customers and mechanism for building local capabilities for their actions and improving resistor by the municipal and additional performers that may lead to improving the business performance (McQuaid 2000:17).

iii. Legitimacy

Partnerships are grounded by policy that is legitimacy such as participants direct from confined community than the democracy of vital and representatives of local government. When decision are made by central and local government officials or nongovernment organisations, then community participation can enhance the legitimacy of the policies that must be implemented when organisations join work. However, the government can use partnership to influence local policies; that is implementing trainings for communities. According to McQuaid (1993:100) when local authorities allow organisations to partner with external organisation, they bring resources into the area, the creation, sharing of risk and rewards such as: funding, property, expertise and national support schemes. Partnership can allow local authorities to provide recourse, statutory powers and democratic legitimacy.

2.3.4 Disadvantages of partnership

Partnerships are associated with many problem and need to be taken seriously (McQuaid 1994:13; Hastings 1996:253), depending on the form of partnership. The seven disadvantage of

partnerships are unclear goal, costs of resource, powers unequal, power usurping cliques, other 'mainstream' services impacts, partners philosophy and problems in an organisation.

i Goal

Unclear goals can be one of the biggest problems that cause partnerships to fail. Organisations enter into partnership without full understanding of one another's goals, which, in the long run, will create conflict, misunderstanding and lack of coordination between partners. This can be caused by companies having hidden agendas that will see them gain advantage over the other partners (McQuaid 2000:18).

ii. Resources costs

Accountability could become a problem among partners if one partner would feels fully responsible for the actions by another, which is caused by the imbalance between responsibilities and control (McQuaid 1997:197). Partnership can be quit costly in terms of having to meeting on a regulator base were discussions and agreement making need to take place so that the can have a better understanding of the relationship.

iii. Unequal power

According to Syrett (1997:99), most partnerships fail to acknowledge the imbalance of power relations between social partners. Power must be share equally among partners, consultation and public partnerships may interchangeably, but a good partnership involves the involvement between a range of denotations and obligations (Cadbury1993:11). The relationship among partners may be unequal as one partner may view the partnership more important than the other partner. Unequal power can cause tensions among partners as one partner may seeks to alter the other, in the case where one partner may not take the other partner seriously when it comes to decision makings. However, power inequality does not mean all companions have identical power; that is, when one partner has greater legitimate claim in the area they operate in or have a more political motive than the other partner (McQuaid 2000:20).

iv. Usurping power

Operation of partnerships involves many dangers, especially when the objectives of operating the partnership are not well understood by one partner which may lead to a down fall of operation. There is also a problem when individuals make decision that they would not normally have done if they were working alone. Partnerships may lack momentum as the partners may rely on the other to deal with production, resulting in the job not done (McQuaid 2000:21).

v. Impacts upon other services

Partnerships have a huge impact upon other services. Partnerships can impact economic development initiatives from events of important agencies mainly individuals that stand alone. The problem is associated with partner's responsibility, where a wide range of services and responsibilities are given to local authorities while regional development or national or community have less responsibilities; which in the long run will cause problems among partners (McQuaid 2000:24).

vi. Organisational difficulties

Organisational difficulties can lead to a down fall of the partnership when one organisation is fails to meet their responsibility to the partnership. According to Jennings and Krane (1994:341) there are countless difficulties in co-ordination, such as manufacturing (missions, value, professional orientations and processes of agencies) political (internal and external politics) and legal (regulations that are set by the government) issues.

According to McQuaid (2000:25) in order for partners to overcome a selection of obstacles managers must use mechanisms. Good managers/leaders and interpersonal relationships are the main achievement of an effective and efficient partnership if a clear direction and vision are communicated and understood among partners.

vii. Differences in philosophy among partners

Differences within the partnership can happen when partners do not understand their responsibility and not work to the decisions that the organisations have agreed upon. Combining

public and private management practices can lead to the difference in philosophy among partners (Bryson & Roering 1987:9).

2.4 EMPIRICAL REVIEW

Empirical review consists of variable in the study.

2.4.1 Supply chain partnership (SCP)

The value of supply-chain partnerships has been explored by Szwejczewski (2006:202), Nyaga, Whipple and Lynch (2010:105) and Sodhi & Son (2009:939). Two key factors have been identified in partnership success namely adequate communication and conflict resolution mechanisms (Ellram & Hendrick 1995:45; Mentzer, Min & Zacharia 2000:125). In their article Assessing Supply Chain Partnership performance in Service Organisation: Conceptual Model, Goffin *et al.* (2014:18) proposed a conceptual model of partnership performance in supply chains which focuses on the difference between service firms and manufacturing firms They identified 11 assessment dimensions for this exercise, The traditional methods of evaluating supply chain performance increase financial measures such as investment return and net present value.

Squire, Cousins and Brown (2009:461) refer to a supply chain partnership as an organisation exchange relationships between two organisations, where the relationship concerning two parties (buyer and supplier) is not the same as to cooperative adversarial. In a market environment that is dominated by large number of suppliers, price bargaining competition, and supply continuity are likely to be achieved through the need to have suppliers in a large numbers and this approach is usually implemented where there is low risk and low value (Carr & Pearson 2002:1032).

According to Chauhan and Proth (2005:44), within the context of the organisation, the relationship between the two parties can occur in various forms. On the other hand, supply chain partners tend to act in a unlawful manner without a formal contract, non-contractual supply chain partnership approaches as strategic alliance and joint ventures, maintenance and involvement in negotiation of explicit contracts that in tells deliverables, revenue share price and negotiation and having legal structures govern by the law that defines their limitations and boundaries (Lambert, Emmelhainz & Gardner 1996:1).

Organisations may choose to partner in order to achieve goals that they would not be able to achieve if they were acting in isolation they would not be able to achieve (Mohr & Spekman 1994:123). However, beyond the implementation of a buyer and supplier relationship, which may dominate in a certain market, influenced by critical causes that are vital to the market environment of today on the improvement of supply chain partnership with organisations that are lacking direction (Gallear, Ghobadian & Chen 2012:83). However the problem with such measures lies in the fact that supply chains now provide benefits that include many that are intangible. In many ways the use of a balanced scorecard, as suggested by Norten and Kaplen (1992:25), might be advisable to capture various perspectives such as:

- Customer perspectives
- Learning perspectives
- Financial perspectives (ROI) and Process perspectives (cost per hour).

Other factors that should in some way be accounted for are partner asymmetry, mutual trust, management support, cultural compatibility, business compatibility and the willingness and capacity to share information.

2.4.1.1 Supply chain partnership definition

According to Mohr and Spekman (1994:133), a partnership is defined as the strategic relationship among self-governing organisations who share common goals, importance of high mutual interdependence and mutual benefits. Issues that are associated with the performance of partnerships have gained more responsiveness than others because of certain research complications (Gulati 1998:294). Few available measures and relevant census documents can be the main cause of difficulties around the importance of partnerships (Glaister & Buckley 1998:90), and collaboration to the way that partnerships perform remain uncertain (Geringer 1998:357). Sodhi *et al.*, (2009:938), state that supply chain partnerships vary from the way the organisation operate in the market environments and the capabilities of its resource. According to Glaister *et al.* (1998:91) the variation in partnership can be the main source of reliability and compatibility problems.

Partnerships based on mutual trust, achievement of pre-specified promises and collective problems solving can be beneficial to the partnership formed, helping the partners avoid the length and complexity of the bidding contract that are more expensive to monitor (Fynes, De Bu'Rca & Marshall 2004:181; Zaheer & Venkatraman 1995:374). When two organisations joined by trust are more equipped when it comes to adopting the changes that are not visible, the reduction of financial cost and solutions to the problems that were identified that will increase the outcome of the organisation in the market economy (Ryu, Park & Min 2007:54).

When relationship is categorised by the quality of partnership that is associated with the involvement to share organisation commitment, associated risk, adaption and reciprocity it can become more profitable in a short and long term run (Lahiri & Kedia 2012:11; Wu & Cavusgil 2006:83). According to Lahiri *et al.* (2012:13) the benefit that aligned with the supply chain partnership among local suppliers and their suppliers may include the following:

- Customer satisfaction
- Improved insight of fairness and justice
- The loyalty of Customers
- Satisfaction of the Relationship
- Positive influences
- Replication of transactions
- Business continuity.

A powerful advantage that accrues from supply chain partnerships is that they are perceived to encourage long-term association among ups and downs of partner's streams. In a fast-moving then volatile business situation, this element of stability can only be good for business as it promotes integration and collaboration in a manner required by today's more complex business world. This was one of the aspects studied by Done (2011:35). Strategic supply chain partnerships thrive when firms are willing to share strategic information (Mentzer *et al.*, 2001:3). Strategic supply chain partnership also requires operational-based information (production planning, production outcomes and new product/service developments details) (Zhou & Benton 2007:1348).

2.4.1.2 Environmental supply chain management (ESCM)

A relatively new area of concern is for green supply chain management (GSCM). This covers areas of concern such as eco-design, waste management, waste reduction, recycling, material substitution, the economic advantages of recycling and a growing concern for energy conservation. A useful overview of the literature regarding GSCM is provided by Sarkin and Zhu (2010:35) in their study for Clark University entitled: An Organisational Theoretic review associated with literature on green supply chain management. Not only would there be an element of reduced operating costs through conserving and recycling, it could also be argued that the 'green' image becoming more socially acceptable will have a positive effect on trade.

2.4.1.3 Supply chain partnership and partnership quality

Relationship continuity can be enhanced by a good partnership quality for any stable exchange relationship (Jap & Anderson 2003:1684). Mutual sharing of benefits and risks, relationships based on cooperation and trust among a supplier and buyer tend to have beneficial effects on performance. According to Gaur, Mukherjee, Gaur and Schmid (2011:165) relationships based on quality among partners exchange is important for performance implications. For example, firm performance is increased by organisational trust (Gaur *et al.*, 2011:165). Increased partnership quality between firms and suppliers can make firms to avoid contracts, ministrations, enforcement and cost association (Williamson 1991: 269).

In essence, a relationship between a supplier and a buyer may allow the buyer to focus more on the core business with less worry about the risk that are involve with the opportunism by the partner organisation (Williamson 1991: 270). According to Hult *et al.* (2006:45) the following reasonable activities become critical in the performance of the supply chain partnership namely, quality, flexibility, speed and cost. A competitive advantage can be built when enterprise value between the local buyer and seller join together to a achieve a common goal than a partner that operate in isolation would not simply establish (Cousins & Lawson 2007:123). Basing connection on trust, effective intimacy and communication between firm and its suppliers, the two parties find it easy to know what are the other party expectations and objectives that can help improve Supply chain partnership (Srinivasan, Mukherjee & Gaur 2011:260).

According to Srinivasan *et al.* (2011:260) when improving performance, suppliers must ensure that cycle time and the fill percentage of the buyer are not compressed negatively. If two partners share an affirmative relationship, enabling them to fully understand each other's knowledge which can improve supply chain performance. When firm and supplies fail to work hand in hand can lead the whole transaction to a merger downfall. Such relationship often fail to improve the competitiveness position of their supplies through motivating them to go perform beyond their usual capacities and making them render high serve level to the buyer (Srinivasan *et al.*, 2011:262).

Partnership founded on the quality of partnership between companions can supplier improve on delivery time and product quality implementing the enhancement of a future consequences such that develop the quality of the product, will increasing delivery performance to end-users and customer satisfactions (Lahiri, Kedia & Mukherjee 2012:10). Mutual understanding among alliances can lead future planned benefits for both supply chain partners, the higher level in partnership quality of a buyer lead to a high operational performance (Lahiri, & Kedia 2011:11). According to Narasimhan and Jayaram (1998:579), increased delivery reliability, order cycle time and higher quality levels by the strategic focus on supplier development can bring supply chain benefits. Transactional relationships characterised by trust, join problem solving attributes and information sharing increase partners performance, in which, include the adaption of producing and identifying, unforeseen changes solution that have an impact on the organisation (monitoring of cost and economic outcomes) (Chu 2003:25).

2.4.1.4 Strategic supply chain partnership (SSCP)

According to Mohr and Speckman (1994:135), communication behaviour, conflict resolution techniques and partnership attributes are factors that influence a partnership is success in a supply chain. A stream of literature such as (Graham, Daugherty & Dudley 1994:13; Ellram & Hendrick 1995:41; Mentzer, Min & Zacharia 2000:549) has been conducted on this topic. Recently, several studies have been done (Goffin, Lemke & Szejczewski 2006:189; Nyaga, Whipple & Lynch 2010:101; Sodhi & Son 2009:937) to identify potential benefits to be gained through partnership.

Several empirical research have been conducted as well (Goffin, Lemke & Szwejczewski 2006:189; Nyaga *et al.*, 2010:101; Sodhi & Son 2009:937). According to Goffin *et al.*, (2006:190) potential benefit of a supplier manufacturing relationship can be attained through strategic supply chain partnership. According to Nyaga *et al.* (2010:102) Commitment and trust among inter manufacturing organisation (investment dedicated, relationship joint efforts and the outcomes of the relationships).

Retailer's suppliers are viewed from two different points such as strategic performance of partnership and performance of operational partnership which are affected by five factors: namely joint partnership management, information sharing, specific relationship assets, trust and partner asymmetry (Sodhi & Son 2009:937). When increasing essential role, strategic partnership have a long term benefits for the organisation based on the performance of enterprise to reduce risk and join relationship with other supply chain organisations (Mentzer, DeWitt, Keebler, Min, Nix, Smith & Zacharia 2001:2).

2.4.1.5 Practice of strategic supply chain partnership

According to Johnston, McCutcheon, Stuart and Kerwood (2004:28), trust is an important function in the strategic supply chain partnership. Organisations view the development and maintaining of trust as a high level to increase the success of the relationship building process with their suppliers (Cai, Jun & Yang 2010:257; Nyaga *et al.*, 2010:102). Supply chain firms can achieve desirable performance outcomes when they implement mutual trust among their partners while increasing reliable and trustworthy to achieve their long term goal (Das & Teng 1998:491; Mentzer *et al.*, 2001:3).

According to Li and Lin (2006:1641) supply chain firm's compatibility may reflects similarity in management goal and style compatibility with supply chain partners. Organisations culture is important for long and short term inter-firm relationships that can be beneficial in the future (Smith & Barclay 1997:3; Li & Lin 2006:1642; Paulraj, Lado & Chen 2008:45). Support from top management is critical in communicating the implementation of strategic decisions and vision within a supply chain organisation (Hambrick & Mason 1984:193; Kotter 1990). Commitment from top management, lead to the deployment of necessary resources that

facilitates the improvement of strategic supply chain partnership with supplies that are key to the organisation (Mentzer *et al.*, 2000:4; Li and Lin 2006:1642).

2.4.1.6 Implementation of strategic supply chain partnership

According to Monczka, Petersen, Handfield and Ragatz (1998:553) top management should be involve in strategic practices that are long term oriented and are implemented organisation-wide, in contrast operational practices are functionally focused, short term based and are middle management initiated. Strategic supply chain partnership requires operational based information sharing among supplies such as production outcomes, production planning and product or service development techniques (Zhou & Benton 2007:134).

2.4.1.7 Power in supply chain partnerships

Power have been used by several scholars (Ramsay 1996:129; Maloni & Benton 2000:49; Cox, Sanderson & Watson 2001:28) to study the behavior of supply chain relationships and marketing channels, its significances requires its origins in sciences and political. Power have been defined as the ability of one organisation (1) to influence another organisation (2) to embark on the activities that organisation (2) will not operating in isolation (Cox *et al.*, 2001:29). Supply chain power is either unbalanced or balanced (Muthusamy & White 2006:811). Balanced power can make partners to express their views freely and broadly in inducing their decisions, when many performers are able to convince the other players is when unbalance power exist (Muthusamy *et al.*, 2006:811).

According to Pfeffer and Salancik (1978), resource dependence theory (RDT) characterises the organisation that is dependent on contingencies and open system. The theory addresses the two key questions, first, where does dependence and power comes from? Secondly, how power is used by managers to manage their dependence, when managers act to reduce dependence and environment uncertainty (Hillman, Withers & Collins 2009:1404). Power can lead to a concept of mechanism above valuable means (Ulrich & Barney 1984:471). Firms enter into inter organisational relationships to minimize dependencies and uncertainties in the supply chain (Pfeffer *et al.*, 1978).

According to RDT, if organisation (1), shipping intermediate goods while supplying only one customer organisation (2), than organisation (1) is hooked on organisation (2), but if organisation (1) is supplying many organisations together with organisation (2), then the two organisation are dependent mutually on one another (He, Ghobadian & Gallear 2013:605). Mutual dependence can be used in order to ensure consistency with resource dependence theory (RDT), to indicate power balance and dependence to signify unequal power (He *et al.*, 2013:605). According to Ramsay (1996:129) mutual dependence among supply chain organisations due to variances in corporate resources, size alternatives obtainability and standing that surround the organisation. When organisation choose to collaborate, the seemed have little chances of distancing from the market (New 1998:18). Supply chain is mostly influenced by power, the existence of buyer supplier relationships when the buyer is stronger and the supplier is weak or weaker buyer and stronger supplier is explained in details (Bates & Slack 1998:63).

According to Pfeffer *et al.* (1978) power can among partners is dynamic and it can be exchanged from one partner to the next from one activity to the next. The excessive risk transfer and costs by supply chain firms that unexpected buy suppliers through various organisation within the supply chain practise, if not balanced, the will effect on the innovation and investment within the supply chain and their customers that are loyal to the business (Competition Commission 2008:6). Which is supported by several studies (Heide & Miner1992:265; Beecham & Cordey-Hayes1998:191; Maloni & Benton 2000:49). According to Maloni *et al.* (2000:50), dependence can cause confusion between the supply chain partners and, therefore, can stop the relationship moving towards a win-win partnership. A difficult supply chain relationship its dependency is unshared, in a way that a partner can have more control among other partner (Wilson 2008:36). In other cases, exploitation of one partner leading to the down falls of certain organisation in a long term run (Heide *et al.*, 1992:265). For example, Yeung, Selen, Zhang and Huo (2009:66) suggested that the purchasing power of the buyer often have an increase in the performance of the supplier, stating that companies like Toyota are using its supplier performance to implement them to adjust to the innovations such as the demand pull, assembly based and just in time system.

2.4.2 Supply chain collaboration (SCC)

Supply chain collaboration has been distinct in many different ways, and basically they are grouped into conceptualization, the first is the focus process and focus relationship. When two or more supply chain partners work together the supply chain collaboration is seen as a manufacturing process working toward the same goal (Mentzer *et al.*, 2001:562; Stank *et al.*, 2001:52; Manthou *et al.*, 2004:452; Sheu *et al.*, 2006:27), while supply chain collaboration activities such as the close of formation, long partnership relationship and sharing the same information, risk and resources to achieve the same mutual goal is defined as collaboration (Bowersox *et al.*, 2003:33; Golicic *et al.*, 2003:44).

The literature review reveals the importance of planning activities, integrating cross-functional processes, coordinating the supply chain setting supply chain goals and establishing information sharing parameters ((Kimand & Umanath 2005:85; Lamming 1996:28). Combining procedure and affiliation focus, supply chain collaboration is known as the process of two or more organisation join venture in order to achieve the same goal with the same benefits (Boddy *et al.*, 2000:33). Supply Chain Collaboration involves the following:

- Business information sharing
- Synchronization of goal similarity decision
- Organisation sharing resource and
- Incentive configuration between self-governing supply chain followers (Simatupang & Sridharan 2005:112).

2.4.2.1 Activities of collaborative relationship

When organisations participate in collaborate activities, a relationship can develop when outstanding contract exist because neither organisation depends on contractual way of developing the relationship (Nyaga, Whipple & Lynch 2010:101). According to Williamson (1993:453) organisations can chose to participate in collaboration activities, so that they can reduce problems that may arise in the organisation in a long time, when collaborating activities is enforced by both parties, it will allows the relationship on each part the willingness to give and take and creating a system for future exchange of administration. Collaboration activities

encourage organisation behaviour, opportunism and increase the exchange value of the potential relationship (Srinivasan & Brush 2006:436).

According to (Nyaga *et al.*, 2010:101), there are three types of collaborating activities namely:

i. Dedicated Investment

Dedicated investment is referred to as investment made by a supply chain supplier or buyer who are in a relationship with a certain buyer or supplier in the supply chain (Heide & John 2010:24). According to Dyer and Singh (2008:660), collaboration partners can develop resources that in time form organisation boundaries that may occur in the inter organisation processes and routines. Resources such as: relational specific assets can enable collaboration relationship among partners to higher returns and sustaining competitive advantage in the long term. These investments are mostly associated with relationship success (Rokkan Heidi & Wathne 2003:210). According to Ganesan (2014:1), tangible evidence can be offered by dedicated investment that supply chain partner can be believed, implementing the relationship and willing to make important decisions through such investment.

ii. Information Sharing

According to Mohr and Spekman (1994:135) information that is conveyed to supply chain relationship partners is known as information sharing. This type of relationship involves other parties in the first stage of designing the product, or forecasts in jointly providing demand and supply to increase competitive advantage when entering a new market environment (Cannon & Perreault 2009:439). Information sharing among partners was found to be important part when developing the buying firm supplier effort and is an important factor when supply chain partners are to enable collaborating benefits (Min, Roath, Daugherty, Genchev, Chen, Arnd & Richey 2005:237).

According to Kwon and Suh (2004:4), information sharing is important in building trust among collaborating partners since sharing important information helps the organisation to understand the other party's way and develop conflict resolution. Sharing confidential information provides

is a sign that the organisation is collaborating with can be trusted and that the intention and motives of the partner will make the organisation profitable in a long-term (Doney & Cannon 2007:35). Information sharing among supply chain partners encourages partners to commit to the relationship that is formed by the organisations (Kwon *et al.*, 2004:5).

iii. Joint relationship effort

In order for collaborating relationship to succeed, partners must plan, coordinate activities, resolve problems and work together (Nyaga 2010:102). According to Min *et al.*, (2005:238) joint efforts (setting goal, measuring performance and solving problems) are important for supply chain collaboration relationships to be successful. Joint relationship efforts will enables partners to share their operation activities and planning, which will enhance the two parties to build trust towards each other. When organisation work together, the will commit to the relationship and opportunities for joint decision will provide supply chain partners to commit to the relationship (Jap & Ganesan 2000:227).

2.4.2.2 Supply chain collaboration and cooperation

Cooperation is of major importance to collaboration efforts of all kinds between parties in a modern supply chain is the use of the Internet (Angeles & Nath 2001:123). It is a sobering thought that web-based communication which so dominates the business world today would have been impossible a mere thirty years ago. Whilst the internet began to be developed by the US military in the 1970s it was only really in the 1980s and early 1990s that significant only available for commercial use in 1991 of this powerful resource (TechniWarehouse.com). Today of course, it would be difficult to imagine the direction of supply chain undertakings without using internet (Stank *et al.*, 2001:445). Demand forecasting and production planning to timeously meet the needs of the consumer is now very much the driving force behind the need for good collaboration and a strong measure of cooperation in supply chains via the internet (Fliedner 2003:215).

Collaborative planning, forecasting and replenishment commonly referred to under the acronym CPFR and spearheaded in 1995 by the Voluntary Industry Commerce Standards organisation (VICS) in the United States. (Haag *et al.*, 2006). Through better planning and decision-making

that is facilitated by astute web-based communication, supply chain firms stand a better chance of sustaining a lead from competitors. One of the many side benefits of the division of quantitative evidence in the supply chain is that this process promotes general transparency which, in turn, promotes trust between the parties and commitment to the joint enterprise. (Nyaga *et al.*, 2010:539).

No matter how good an internet program may be or how sound a 'model' of operation might be, it should be kept in mind that human intervention is needed to implement these and the aspect of training and staff development in the operation of supply chains should never be underestimated (Peck & Juttner 2000). A further factor to be kept in mind is that technology is advancing at an exponential rate which means that the efficient system or model in operation today is very likely to either be obsolete or at least in need of adjustment or significant revision within a period of a year (Angeles & Nath 2001:124). Hand-in-hand with this must be a plan for the on-going upgrading of staff training to maintain efficiency in the operation of the new or revised systems that provide the platforms for information sharing in the supply chain (Sheu *et al.*, 2006:27).

This argument is totally refuted by Fleidner (2003:45) who believe that it is not the use of technology that is at issue when it comes to barriers to supply chain collaboration. The shortcomings in internal integration as a potential organisational barrier and the lack of astute forecasting could present an operational barrier (Manthou *et al.*, 2004:453). In fact, any breakdown in any of the many factors mentioned above such as trust, the sharing of business skills and technology, compatible organisational vision, cultural compatibility, uneven power relations and the like can contribute to the turbulence of the partnership relations (Stank *et al.*, 2001:446).

2.4.2.3 Models in supply chain collaboration

According to Fliedner (2003:215), evaluation can only be undertaken when the criteria for what is being evaluated have been proposed, defined and agreed upon. This is why in supply chain management different models have been and continue to be proposed. Arguably the most accepted of these is the Collaborative planning, forecasting and replenishment model (CPFR model), although it would appear that when the basic structure is implemented, individual differences in company profiles and unique characteristics require that there should be additions

and variations to the basic model (Ireland & Crum 2005:254). The strength of this model lies in its capacity to keep information up to date on the state of the inventory, the transport arrangements, orders, delivery logistics, forecasting, replenishment, all of which forms part of efficient forward planning. Because it is comprehensive in its information gathering the whole enterprise can be run efficiently. Wastage can be minimised together with 'dead' inventory (Huan 2010:445).

West Marine is another success story reported on in the Supply Chain Management Review. This study found that whilst forecasting accuracy showed immediate improvement with the introduction of CPFR this was not sustainable due in part to the fact that replacement parts that were needed to maintain the inventory could have been redesigned and were now more expensive. Adjustments to the model are required to keep abreast of market changes. Devised by over seventy of the world's most prominent manufacturing companies and described by Huan (2010:445). as " the most promising definitive for supply chain strategic resolution making' the supply chain operations reference model (SCOR) is a tool that concentrates, according to the Supply Chain Council (<http://www.supply-chain.org>) on five items namely plan, source, make, deliver and return.

Bernhard *et al.* (2000:245) propose a systems Dynamics Model for supply chain management that focuses on design and integration of the supply chain, policy development, elements of time and demand and inventory decisions. These and other models and approaches bear testimony to the vibrancy of the field and at the same time to its turbulence. All models have a common purpose which is to provide a means of evaluation that will, at the same time reveal problems, imply solutions and give grounds for enhancing collaboration. Common issues that emerge are: cost, quality and flexibility to address the changing needs of the consumer and the altered dynamics of the economic environment. An additional element addressed by Ramanathan and Muyldermans (2010:538) is that of accuracy in the use of information that forms the basis of forecasting.

2.4.2.4 Key mediating variables of collaboration

According to Josi and Campbell (2003:176), collaboration through the need for a long term or future relationship serve as incentives for a mutual exchange between supply chain partners and

increases the chances of a business being competitive if the relationships is bound contractually. Even when the relationship is joint by a contract obligations, one partner can hold back information that is important, so parties must work together to make the business profitable (Srinivasan & Brush 2006:436). When a supply chain organisation choses to collaborate and dedicate investment, they become predictable; thus, organisation must enforce trust and commitment as an important factor to be considered (Wathne & Heide, 2000:36).

According to Morgan *et al.* (1994:22), commitment and trust bounds and maintains the relationship, not power. Commitment and trust are core activities of collaboration as they create a self-empowering opportunity for the business. Commitment and trust provide a core relationship that is not enforceable by legal contracts, In other words, in order not to relay on legal contract bounding, organisation look to keep the risks in check and when commitment is in place, these risks are mitigated or reduced (Srinivasan *et al.* , 2006:437). Trust also reduce the uncertainty in the collaboration when contracts are not enforced between the supply chain partners and less risky dedicated investment in a long term period (Kwon *et al.*, 2004:5).

2.4.2.5 Commitment in collaboration

Commitment refers to the belief of one organisation that in other organisation is important so that it warrants the increase in the effort of maintaining the relationship; the committed party is committed to the relationship and believe that the relationship will work in order to ensure it endures indefinitely (Morgan *et al.*, 1994:23). According to Prahinski and Benton (2004:39), commitment results in both supply chain buyers and suppliers gaining mutual benefits and improved performance are made possible as organisation commit to long term collaboration. Krause, Handfield and Tyler (2007:528) found that collaborating commitment had a direct positives impact on the performance of the organisation.

2.4.2.6 Trust in collaboration

According to Ganesan (2004:1), trust is the extent to which supply chain partners that are in a relationship view each other as credible and important to the organisation. When a partner believe that the other partner has the required expertise to improve the performance of the organisation, while benevolence may occur when a partner believe that another partner have the

potential, motives and intentions that will improve the performance of the organisation in the long run (Uzzi 1996:35). Collaboration trust can maintain a greater achievement among the supply chain suppliers, retailers and with greater knowledge and the willingness to appreciate of another partner's contribution to the collaborative relationship (Corsten & Kumar 2005:80).

Long-term relationship with a partner may depend on the way the supplier and the buyer trust the ability of the other partner (Ganesan 2004:2). Therefore, buyer and supplier who trust each other will put more effort and resources to ensure continuity of the relationship. According to Morgan *et al.* (1994:24), partners who trust each other will provide important information and resources to the relationship and will view the relationship as a long term investment.

2.4.2.7 Collaboration relationship outcomes

According to Cannon and Homburg (2001:29), collaboration relationships must be helpful to the achievements of both the organisations goals and vision. The stronger the supplier relationship between the buyer and the seller the stronger the performance and satisfaction it will be on the supply chain firm. Therefore, understanding the critical satisfaction of collaboration is important (Field & Meile 2008:185). Benton and Maloni (2005:1) examined three outcomes, namely satisfaction with results, satisfaction with the relationship and collaboration performance. According to Kalwani and Narayandas (1995:1), supply chain organisation in a long term relationship gain a higher increase in profitability and growth than those organisation that operate in isolation. Geyskens, Steenkamp and Kumar (2009:223) define satisfaction in both economic terms (economic rewards that increase sale profit and volume) and noneconomic terms (good interaction, willingness to exchange information and respect between partners). According to Geyskens *et al.* (2009:224), through a meta-analysis the idea that customer satisfaction can be calculated in non-economic and economic.

Collaboration relationships can be used to measure operation, improving the performance and satisfaction in collaboration partnering (Nyaga *et al.*, 2010:106). Organisation performance improvements have an influence on the supply chain supplier and buyer and, thus, because the buyer and supplier have a critical consideration for the develop programme (Prahinski *et al.*, 2004:40). Other existing literature suggest that logistics performance measures (cycle time, lead

time and fill rate) and operational performance (reduction of cost and inventory) can be improved when organisation form a collaborative relationship (Whipple & Frankel 2000:36; Daugherty, Richey, Roath, Min, Chen, Arndt & Genchev 2006:61). Therefore, in order for a firm to engage into a risky and time-intensive in collaboration relationship there must be something to gain (Johnston, McCutcheon, Stuart & Kerwood 2004:25).

2.4.2.8 Collaborative product development (CPD)

According to Wang, Shen, Xie, Neelamkavil and Pardasani (2002:981), the mechanisms and model of collaboration product development can be grouped into collaboration horizontal and hierarchical collaboration categories. Hierarchical collaboration may happens in a downstream and upstream design manufacturing, and horizontal collaboration takes place in an organisation that its partners are from the same department and are measured in three levels, namely knowledge sharing, communication information and activities of coordination (Li, Lu, Fuh & Wong 2005:931). Concurrent engineering, information technologies (Tay & Ming 2001:55) and supported computer cooperative (Shen, Hao & Li 2008:855) have been put in place to solve communication related issues in collaboration production development. According to Gorti, Gupta, Kim, Sriram and Wong (1998:489) these technologies are made by computer techniques and networks in order to support communication between supply chain partners by sharing different scopes of information.

There two ways in which the type of contact can be divided, namely synchronous component, including mark-up, annotation, forum, email, switch version and mail list and asynchronous component that includes instant messaging, chat text, video conference, whiteboard and voice chat (Li *et al.*, 2005:932). Kim, Manley and Yang (2006:1233) established ways to persistently and explicitly engineering relations implemented in sharing information and design assembly based on onto-logy model. Coordination of collaboration activities divided into different unstructured and structured tasks that are a key success to collaboration process (Gorti *et al.*, 1998:490). According to Thompson (2003), many models of coordination were built to implement the dependencies activities (reciprocal, pooled and sequential) proposed by three mechanisms coordination such as; planning, standardisation and mutual adjustments using organisational theory.

Several studies view reference models as it increase the collaboration performance in supply chain organisation, for example, Chuang and Yang workshop (2006:2009) establishing complexity of collaboration trend model to implement collaboration strategy, Deck and Strom (2002:47) establishing a model of emergency development to simplify collaboration relationship framework among supply chain partners, Choi, Kim and Kim (2008:183) proposed that obstacles in collaboration relationship during product design stage shall be resolve by designing a chain of collaboration framework; Shiau and Wee (2008:119) established a workflow distribution control to maintain the consistency between activities designed in a collaboration network.

2.4.3 Supply chain integration (SCI)

According to Van Der Vaart and Van Donk (2008:45), supply chain integration is self-evident that commercial enterprises of all kinds will seek to gain a competitive advantage over other suppliers of goods or services in the dynamic world of commerce and industry. Given the range of human, technological and infrastructural resources required to mount a successful bid for competitive advantage, collaboration at different levels becomes a vital issue (Koufteros, Vonderembse & Jayaram 2005:97). According to Bleeke and David (1993:236), an enhanced collaboration between suppliers and purchasers as a strategic measure, this will hopefully secure information exchange and transfer of knowledge. The coordination of this information into a managed integrated system operating within an inter-organisational framework should ensure the efficient flow of products between supplier and purchaser at a competitive price and at an efficient delivery speed (Griffith, Harvey & Lusch 2006:85).

2.4.3.1 Definitions of supply chain integration (SCI)

Supply chains integration helps alleviate the ‘associations from the component chain’ and improve enhanced decision making processes to obtain pieces of the business to cooperate in an effective way (Putzger 1998:55).

Flynn *et al.* (2010:1235) sub-divided SCI into three categories: customer, supplier and internal integration. The latter term refers to “...the strategy collaboration of both inter-organisational and intra-organisational processes. It is generally accepted that supply chain integration (SCI)

ensures positive results but the best attempts at securing integration can be nullified by environmental uncertainty (Thompson 2012:41; Venkatraman 2009:84).

2.4.3.2 Supply chain information integration

According to Frohlich and Westbrook (2001:185), the flow of material from upstream to the downstream supply chain must correspond with the movement from the downstream to the upstream in order to balance the supply chain. Better information technology capabilities and better communication among supply chain partners add to a superior stand when individually partners contribute in participation, management and solving problematic actions (Cheu, Yen & Chae 2006:24). Information sharing and information technology sharing is seen as platform to supply chain integration, two major aspects of supply chain integration are the technical aspects (connections of information technology) and the aspect in the social society (sharing information and trust) according to several studies, (Narasimhan & Kim 2001:301; Frohlich 2002:573; Gunasekaran & Ngai 2004:269; Devaraj, Krajewski & Wei 2007:1199; Sanders 2007:6) focusing on the importance of introducing technological ways for information integration.

Other studies (Yu, Yan & Cheng 2001:114; Narasimhan & Nair 2005:301; Carr & Kaynak 2007:346; Zhou & Benton 2007:1348; Li & Zhang 2008:1467; Sezen 2008:223) suggested that it is important for suppliers to share information and communicate in order to increase organisation performance. According to Chae, Yen and Sheu (2005:440) all aspects of information integration are important, while having access to technology without being willing to share important information will not improve supply chain performance and will fail to introduce a integration among partners. Only manufacturing organisation that are able to provide both social and technical of information integration will bear the maximum benefit of supply chain integration (Chae *et al.*, 2005:441; Fiala 2005:419; Fawcett, S.E., Osterhaus, Magnan, Brau & McCarter 2007:358).

The two aspects of information integration (information technology and information sharing) are discussed below:

i. Information Technology

According to Prajogo and Olhager (2012:514), communications of information technology in manage the following supply chain aspects:

First, information technology organisations increase the complexity and value of information that must be shared with the organisations partners,

Secondly, in order for the information technology to control and manage the supply chain activities it must provide real time supply chain information such as: levels of inventory, delivery status, production scheduling and planning,

Thirdly, scheduling of supply chain operations among suppliers and the organisation is facilitated by information technology alignment. According to Paulraj and Chen (2007:2), the problem surrounding the supply chain coordination activities caused by distance and time can be reduced if they are implemented correctly. Studies have shown that integration among partners of supply chain can be effective when information technology is used regarding the flow of material terms (Soliman & Youssef 2001:538). Therefore, information technology will implement the following crucial practises in the firm, procurement, sourcing, purchasing and administration of orders (Kehoe & Boughton 2001:582; Swaminathan & Tayur 2003:1387).

ii. Sharing of information

According to Fawcett *et al.* (2007:359), the technological aspect of information integration is important when it is shared large organisational investment in information technology may back fire if the supply chain partners do not share the information needed. Organisation must exchange strategic information if they are to share the information and not only information such as production order and material management information. Leverage will be provided in strategic supply chain information if strategic decisions in operation are made by the supply chain partners (Li, Ragu-Nathan, Ragu-Nathan & Rao 2006:107). Real time information will help the supplier to be able to supply the organisation with merchandise in time: thus, reducing the cost of inventory and the past history sale will help the suppliers to forecast the demand successfully (Seidmann & Sundararajan 1997:117).

Information sharing is important and increases the level of organisation behaviour among partners leading to strategic information and a high degree flow of information against supply

chain partners (Klein, Rai & Straub 2007:611). Several studies (Cachon & Fisher 2000:1032; Lee, So, & Tang 2000:626; Yu, Yan & Cheng 2001:114; Zhao, Xie & Zhang 2002:24) have demonstrated a number of supply chain benefits of sharing information with logistic partners regarding the management of inventory cost flexibility and agility (Swafford, Ghosh & Murthy 2008:288), and the bullwhip effect (Dejonckheere, Disney, Lambrecht & Towill 2004:727). The bullwhip effect can be reduced by vendor managed inventory integration with supply chain suppliers (Disney & Towill 2003:119).

2.4.3.3 Supply chain integration performance relationships

It can be argued that internal integration is the basis of supply chain integration as it eliminates barriers (Flynn *et al.*, 2010:1230) and it facilitates collaboration between internal functions (Morash *et al.*, 1997:351). Quality management demands a determined effort to remove barriers to departmental cooperation (Deming 2010:124). Without internal integration, there is the danger of discrete functions within the organisation working at cross-purposes with each other. The detrimental effect of this could result in a loss of quality, ultimately and a loss of earnings (Pagell 2004:459). In terms of product development, internal integration is essential to ensure that the design, the product manufacturing process and the sales and marketing division all work hand-in-hand (Crawford 1992:189). Internal integration promotes better product design and more efficient manufacturing processes which has the dual benefit of improving production costs and enhancing product quality (Rosenzweig *et al.*, 2003:440). A number of studies support the view that there is a positive link between efficiency and internal integration (Saeed *et al.*, 2005:365; Swink *et al.*, 2007:150).

2.4.3.4 Dimensions of supply chain integration

Being able to understand supply chain integration requires a clear definition and good measures must be in place (Fabbe-Costes & Jahre 2008:130; Flynn, Huo & Zhao 2010:58). According to Pagell (2004:459) and Flynn *et al.* (2010:130), supply chain integration is the strategic collaboration of inter-organisational and intra-organisational processes. Wonga, Boon-itt and Wong (2011:604) have divided supply chain integration into three dimensions: internal, supplier and customer integration, in order to understand the multidimensionality of integration (Flynn *et*

al., 2010:130). According to Wonga *et al.*(2011:604), they are two forms of supply chain integration:

First, internal integration: is the strategic system of collective responsibility and functional crossing across organisation functions, where information is shared across procurement, product design, sale, distribution and production functions takes place to meet the requirement of the customer at a lower cost of total system (Morash, Droge & Vickery 1997:350). According to Wong, El-Beheiry, Johansen and Hvolby (2007:4) internal integration implements sharing of real time information and functional efforts are distributed down across supply chain key functions.

Secondly, external integration: according to Wonga *et al.* (2011:604) there are two types of external integration (supplier and customer integration):

Supplier integration: include strategic partnerships sharing of information among partners, planning collaboration and product development between the organisation and its main suppliers in managing the processes of cross firm business (Ettlie & Reza 1992:795; Lai, Wong & Cheng 2010:273; Ragatz, Handfield & Peterson 2002:389).

Customer integration: according to Fisher, Hammond, Obermeyer and Raman (1994:83) customer integration is the sharing of information, collaboration among organisations and their customers to improve performance and enable joint planning with reliable partners. In order to respond faster to customer requirements and needs, organisations must enable customer integration to understand the deeper expectation of the market and opportunities by matching demand with supply (Swink, Narasimhan & Wang 2007:148).

2.4.3.5 Supply chain integration and trust

According to McCarter and Northcraft (2007:498) if there is no trust between it can create problems such as: hold-ups, leakages and freeriding, which can decrease the performance of the supply chain or defection in the supply chain. Therefore, the organisation must be able to manage the relationship with partners through the use of power and trust in the discourse of supply chain integration (Yeung, Selen, Zhang & Huo 2009:66). Trust is ‘‘the extent to which a firm believes that its exchange partner is honest and/or benevolent’’ (Geyskens, Steenkamp & Kumar 1998:223). Several researches argued that trust is an ingredient that is fundamental when

cooperation is maintained to avoid conflict among two parties (Bachmann 2010:337; Kumar 1996:92; Lee & Billington 1992:65).

Confidence in the supply chain partner can be achieved through trust, which facilitates deeper relational commitment (Das & Teng 1998:491). Hence, trust can increase the stability of the supply chain in the long-term (Handfield & Bechtel 2002:367; Kwon & Suh 2005:26). Being able to understand the influence of trust in a supply chain has become a priority in maintaining the relationship, as trust is known as a factor for success in an organisation (Jeffries & Reed 2000:873).

According to Yeung *et al.* (2009: 67), there are two types of trust in an organisation (intra and inter organisational trust):

Firstly, inter-organisation trust is the extent in which shareholders participate jointly in decision making processes with their partner organisation (Zaheer, Mcevily & Perrone 1998:141). Therefore, the willingness to rely on other partners to achieve supply chain goals depends on trust qualities such as honesty, integrity, reliability, benevolence and competence (Brashear, Boles, Bellenger & Brooks 2003:189; Mayer, Davis & Schoorman 1995:709).

Secondly, intra-organisation trust is the loop that exists that serves to increase inter-organisational trust, which can be reinforced through learning organisations (Burt, Dobler & Starling 2003). These are four types of inter-organisation trust, namely calculated trust, contractual trust, goodwill trust and competence trust (Brashear *et al.*, 2003:189). Although no study has been done on trust in an integration relationship recently, trust has received attention in management market channels (Doney, Cannon, Mullen & 1998:601), cooperative of international alliances (Johnson, Cullen, Sakano & Takenouchi 2006:981), joint ventures (Inkpen & Currall 2006:1), and other studies (Child & Mollering 2003:69). When inter-organisation relationships implement trust, they can reduce the cost of transaction from the transaction cost theory (Li, Humphreys, Yeung & Cheng 2007:230).

According to Grover and Malhotra (2003:457), the cost of transaction is related to opportunism, investment specifics and uncertainty. The willingness of one party to be exposed to another partner is defined as trust. Dilemmas and problems that may occur between supply chain partners can be

solve when the two parties trust each other (Malhotra & Murnighan 2002:543). Ojala and Hallikas (2006:201) state that opportunistic behavior and uncertainty risks can be reduced when partners trust each other and that this increases the partners' confidence to commit to the relationship.

2.4.4 Relationship commitment (RC)

When exchange partners believe that the relationship is worth the expenditure of effort required to ensure its survival, there is relationship commitment (Morgan & Hunt 1994:22). In channels, the commitment of two partners is important to accomplishing valued products, such that firms attempt to improve and uphold this important quality relationship (Morgan & Hunt 1994:22). A number of studies support the role of commitment in compliance with requests for joint action or cite it as the most influential of the relational elements in terms of its impact on joint action (Kumar, Scheer & Steenkamp 1995:55; Lancastre & Lages 2006:775). Scholars have identified several different antecedents of commitment in different buyer–seller relationship contexts. Some scholars have even noted interrelationships between the antecedent variables as well as the mediating roles between some of the variables (Bennett & Gabriel 2001:425). More specifically, in highly competitive international market places, international business scholars as well as marketing practitioners are focusing more on relational exchange perspectives (Nes, Solberg & Silkoset 2007:407).

Relationship commitment will enhance better comprehension of the nature of the interactions and will provide more valid implications in an emerging market setting (Saleh, Ali & Julian 2014:330). Scholars have emphasised the impact of cultural variations, environmental changes/volatility, communication, knowledge capability/competency of the importer and supplier, parties' opportunistic proclivity, and the inclination of sustainable competitive advantages in the relationship (Matanda & Freeman 2009:90; Nes *et al.*, 2007:407; Skarmeas, Katsikeas & Schlegelmilch (2002:758), Wilson and Vlosky (1998:215) identify commitment as the variable that differentiates between relationships that endure and those that fail. Kwon and Suh (2000:273) suggest that “any enduring business transactions among supply chain partners require commitment by two parties in order to achieve their common supply chain goals.”

According to Qin, Yong-Tao, Zhao and Ji (2008:264), a supply chain relationship occurs when two parties interact in the supply chain, including the process of long term relationship in exchange for short-term behaviour. The behaviour of long term is vital in maintaining long term business and is considered as a future relationship. According to Keller (2002:650), long-term relationships and goal driven relationships can strengthen the supply chain relationship among partners. Some organisations consider long-term orientation as an important dimension of the quality of the relationship, according to a study of the relationship quality among importers and exporters (Lages 2005:1041). Steady relationship, inter-organisation and long-term relationship are also identified as important activities of the supply chain management (Saad, Jones & James 2001:174).

Behavioural uncertainty can create important uncertainties in the business environment such as rationality bounded and opportunity, stressing that the long term partnering is an effective way of reducing imbalanced uncertainty (Fynes, Debu & Marshall 2004:181). For an enduring relationship to develop, the commitment and joint action of the involved parties is required to support the recurring exchanges (Heide & John 1990:26). Commitment is a key variable for long term achievement as partners of supply chains that are eager to finance resources and to increase long-term success (Kwon & Suh 2005:27; Mentzer, Min & Zacharia 2000:550). Organisations build and maintain long-term relationships if they perceive mutually beneficial outcomes accruing from such a commitment (Morgan *et al.*, 1994:23).

2.4.4.1 Supply chain relationship quality

According to Crosby *et al.* (1990:70), the value of a relationship is the general valuation of the strength of that relationship and the way in which the relationship sustains the expectations and needs of the involved parties, based on past collective data, which leads to the failure or success of the organisations and encounters. Even the term relationship quality is used in a seller-buyer relationship, according to Huntley (2006:705) the definition of the quality of a relationship may not comprise systematic theory of framework. Crosby *et al.* (1990:72) define relationship quality from a buyer perspective, as the buyer is able to trust and rely on the information that is obtained from the salesperson based on past experiences consistent satisfaction that the buyer has had when dealing with the salesperson in the market place. According to Henning-Thurau and Klee

(1997:740), relationship quality is often viewed as the means of sustaining a relationship that the organisation has with its loyal customers, who have been with the organisation from day one. Some of the main reasons why there is consensus lies within the different types of relationship that are implanted across many organisation and buyer's markets (Woo & Ennew 2004:1254).

According to Lages *et al.* (2005:55), lack of information and communication among parties that have formed a relationship may be seen as a major reason for relationship problems when partners contribute to the decision making process. Anderson and Narus (1990:45) stress that informal and formal distribution of helpful and timeous information is known as communication. Relationship communication among organisations or parties are help to achieve a common goal and to resolve conflict within the business environment. Effective communication is known to an increase in the success of the supply chain organisation (Large 2005:23). Therefore, in order for a relationship to be successful it has to be based on effective communication and it is important for both parties to develop the relationship so it may also be beneficial in the future (Luc 2006:253).

Relationship commitment is often represented by parties that are willing to participate in the relationship. It is often referred to as the willingness of the organisation to share information and the way in which the partners sustain the relationship over the short or long term, along with trust as it is also viewed as an important element that can benefit the relationship (Morgan *et al.*, 1994:23). According to Garbarino and Johnson (1999:412), commitment in a relationship is viewed as a psychological attachment that is based on the long-term welfare of the supply chain organisation. Even for this study, relationship commitment is defined as the continued desire to maintain a profitable relationship of value and achieve a state of mind with an organisation to form and maintain the relationship commitment over a long period of time (Moorman *et al.*, 1993:451). Relationship define commitment as the willingness of both organisations entering into a relationship to work together (Jones, Reynolds, Mothersbaugh & Beatty 2007:337). According to Bendapudi and Berry (1997:30), the relationship between a seller and a buyer can reflect a psychological state of devoting an effective commitment to the relationship.

2.4.4.2 Long-term relationships commitment

According to Prahalad and Hamel (2010:79), the way that supply chain organisations interact with their suppliers has changed. Organisations are more focused on core activities such as increasing the level of trust with their suppliers. There are three supply relationship key aspects. First, build a long-term relationship with the supplier rather than focusing on short term contracts. Secondly, focus on fewer suppliers that the organisation will deal with over a long period rather than keeping a large number of suppliers that will lead to a continuous change of supplier (Ogden 2006:29). According to Helper (2001:15), the only way to lower prices is to create competition among suppliers and purchase in large volume due to supplier long term relationships. Thirdly, consider supply chain partners as part of the organisation and enhance the level of relationship (Choi & Hartley 1996:333; Chen & Paulraj 2004:119).

According to Prajogo and Olhager (2012:514), having a long-term relationship with partners has led to various supply chain collaboration such as supplier integration (product design), joint improving programmes and risk, and profit sharing. There are risks associated with long-term supplier relationships, one of them is being that the organisation will now try to make large investments in order to sustain the relationship such as information sharing and information technology (De Toni & Nassimbeni, 2009:547). According to Klein, Rai and Straub (2007:611), the more the organisation trusts its suppliers, the more information will be shared among the two parties. Sheu, Yen and Chae (2006:24) state that when an organisation engages in a long-term relationship with its supplier, it will affect the architecture of the relationship, including information technology and sharing of information.

2.4.4.3 Supply chain and relationships commitment

According to Harrison (2004:107), a supply chain relationship is a business structure that is characterised by combinations of frequency transaction such as uncertainty, human behaviour and dependencies on assets. Resource dependence theory states that inter-organisations may respond to dependence and uncertainty (Pfeffer & Salancik 1978). The resource dependence theory is based on anticipations that an organisation's success may depend on the relationship it has with its partners to gains more of their resources (Ulag & Eggert 2006:311). Organisation

managers may implement approaches that will explain the dynamics and understating of developing, terminating and maintaining of relationship with their suppliers (Huntley 2006:703).

According to Keller (2002:649), the course of partnering contains long and short-term relationship commitment, where long term relationships stay important for improving long-term collaboration, and supply chain relationships are often viewed as a long-term relationships. Long-term relationship alignment is an important element of quality relationships in an import and export environment (Lages, Lages & Lages 2005:1040). A steady and long-term relationship is also a key activity of supply chain management (Saad, Jones & James 2001:173). According to Fynes, deBurca & Marshall (2004:179), long-term relationship commitment are improvement efforts to decrease improbability in the supply chain and stress that the most important uncertainties is behavioural uncertainties in the organisation, they also stressed that uncertainty can be reduced by closed long-term relationship commitment.

2.4.4.4 Relationship commitment on trust

According to Sharma and Patterson (1999:13), operative communication does not merely promote relationship commitment but also a partner's level of trust. Time spent on communication with potential partners will increase their trust towards the business and enhancing their participation in decision making regarding the business (Moorman, Deshpandcoq & Zaltman 1993:81). Direct communication between partners increases the trust among parties, builds a strong relationship commitment and needs to be sustained (Cullen, Johnson & Sakano 2000:223; Chu & Fang 2006:224).

In information technology, buyers and sellers must communicate with one another to resolve difficulties that occur in the system and technology in the customer business environment (Coughlan, Lycett & Macredie 2005:305). The system might require continues communication throughout the project in order to improve trust, which in turn, may lead to refinements and elicitation to voluntary participations and also encourage partners to participate voluntarily (Carr 2006:77). According to Tzafrir, Harel, Baruch and Dolan (2004:623), communication with partners on a daily basis may promote trust and supply chain suppliers who are communicators might be more trusted by their clients.

2.4.5 Supply chain performance (SCP1)

According to Li, Ragu-Nathan, Raguathan and Rao (2006:107), performance may be viewed as how the organisation achieves its financial goals against the business main competitors. An origination may sustain its competitive advantage in many ways, promoting and ensuring value in the area of managing cost (Carr & Pearson 2002:1032). The definitions of supply chains in the literature vary slightly but appear to conform to the notion that it is the activity of getting a product to the end customer (Elgazzar *et al.*, 2012:276; Fan *et al.*, 2014:383). Handfield *et al.* (2002:367) define a supply chain as a series of inter-connected entities that take up activities involving the information flow and goods from the acquisition of materials to the right customer. Green, Whitten and Inman (2012:1008) describe a supply chain as a value chain that expands from a supplier's supplier right up to the final customer.

Cohen and Moon (1990:275) perceive a supply chain as any combined development in which materials are converted to absolute products, transported to the buyer through dissemination, wholesale or retail. Similar to Handfield and Bechtel's definition, Tavana *et al.* (2014:501) define the term as "a network of suppliers, manufacturers, and distributors through which raw materials are transformed into final products and delivered to the customers," while Chen *et al.* (2008:366) define it as a system of organisations engaged in numerous courses and actions, creating products and services value for the final customer. Traditionally, many studies have assessed organisational performance mainly in terms of financial metrics (Levy, Loebbecke & Powell 2003:3; Prajogo & Olhager 2012:514). These metrics are important to check the financial state of the organisation when calculating the organisation's performance (Wu, Chuang & Hsu 2014:124).

In order to measure non-financial performance and strategic organisation performance, such as the quality of work and buyer satisfaction, indicators are important (Lapide 2000:287; Ranganathan, Dhaliwal & Teo 2004:127). According to Fisher (1997:105) and Lee (2002:79), the strategic supply chain classification with certain products such as the competent supply chain efficient product and innovative product. Improving the performance of a supply chain is one of the precarious issues facing an organisation trying to sustain its competitive advantage over competitors (Estampe, Lamouri Paris & Djelloul 2010:11). Performance measurement has

evolved during the last three decades from using accounting and budgeting systems as tools to measure business performance to incorporating non-financial measures such as competitors, suppliers, and customers (Chae 2009:422). Banomyong and Supatn (2011:21) developed a supply chain performance assessment tool (SCPAT) for SMEs and proposed three areas for performance evaluation: cost, time and reliability. Wong and Wong (2007:362) used a multifactor performance measurement model that considers multiple input and output factors and addresses the day-to-day need to measure supply chain performance using new customer-centric metrics, such as the number of times orders were filled on time and the order delivery rate in addition to financial metrics.

Attempts to optimise organisational performance directly may have proved to have a negative impact on the whole supply chain performance, even damaging the competitive advantage of the organisation (Chopra & Meindl 2004:321; Meredith & Shafer 2002:564). According to Chopra and Meindl (2004:54), supply chain performance is enhanced when business and functional strategic methods are implemented by all members of the supply chain. Green, Whitten and Inman (2012:1009) also stress that for an organisation to increase its position over its competitors it must have a solid relationship with its suppliers and strengthen its strategies, direct incensement.

According to D'Avanzo, Lewinski and Wassenhove (2003:40), these might be a link between the business and financial state of an organisation, leading companies to improve their financial position, sophistication and depth. According to Bowersox, Closs, Stank and Keller (2000:72), the cutting edge of supply chain practices can increase the financial performance of the supply chain organisation. Managers of organisations may be responsible and accountable for the growing performance of the entire company (Rosenzweig *et al.*, 2003:54). In other words, the supply chain performance is based on the organisations partners' capacity to adapt to the changing environment that the company operates in (Vanderhaeghe & Treville 2003:64).

2.4.5.1 Supply chain information capabilities

The review of the literature suggests that supply chain capabilities are a key competitive advantage for a firm (Rai, Partnayakuni & Patnayakuni 2006:227). These capabilities are defined as “the ability of an organisation to identify, utilize, and assimilate both internal and external

resources/information to facilitate the entire supply chain activities” (Rai *et al.*, 2006:228). Wu *et al.* (2006:519) provide an integrative view of supply chain capabilities as encompassing four dimensions, such as exchange of information, management, firm activity integration, and supply chain awareness. Particularly, they examined the impacts of an organisational system (supply chain communication system) on a company’s supply chain practice, arguing that information technology facilitates development of supply chain abilities, which are very explicit and difficult in duplicating across organisations.

Socio-Technical System (STS) theory supports this conceptualisation. STS theory argues that every organisation and its supply chains have both people (the social system) and technical (the technical system) elements (Liu *et al.*, 2006:519). According to Pasmore (2009:442), the extent of the fit between the social and technical systems will govern the effectiveness of an organisation and supply chains. IOISC serves the technical element of the supply chain of a focal firm while IORC functions as the social system. Following the logic of STS and building on the definition of Wu *et al.* (2006:145), supply chain information capabilities are defined as the ability of a focal company to recognise, develop and adjust both external and internal information to enable the information sharing accomplishments among supply chain partners and to develop inter-organisational relational competency.

2.4.5.2 Improving supply chain performance

Improving the performance of supply chains has developed into one of the more serious issues in creating competitive benefits for businesses (Cai, Liu, Xiao & Liu 2009:235; Estampe, Lamouri, Paris & Djelloul 2010:76). Performance measurement has evolved over the last three decades from using accounting and budgeting systems as tools to measure business performance to incorporating nonfinancial measures such as competitors, suppliers, and customers (Chae 2009:64). For example, Slack, Chambers and Johnston (2001:478) propose five performance objectives, namely quality, speed, dependability, flexibility and cost.

The scope of research on performance measurement has broadened during the last decade, and a number of performance models have been developed to measure, control, evaluate and benchmark according to a firm’s strategic objectives and against industry standards (Chan & Qi 2003:183; Gale, Rajamani & Sriskandarajah 2009:672). Two widely used performance

measurement models with supply chain applications are the supply chain operations reference (SCOR) and the balanced score card (BSC). Bigliardi and Bottani (2010:356) applied the BSC model for measuring performance of food company supply chains using both financial and nonfinancial metrics.

Thakkar, Kanda and Deshmukh (2009:784) developed a performance framework for small and medium enterprise (SMEs) that allow them to examine their supply chain issues more thoroughly and, thus, plan strategic improvements by combining BSC and SCOR models. The SCOR model emphasises the operating process, which comprises purchaser interfaces, market transactions, and market exchanges. According to Huang, Sheoran and Keskar(2005:452)the SCOR may assemble the measurements of supply chain performance into a hierarchical structure, which comprises of five processes, namely manufacturing, planning, buying, transporting and reverse logistic .Chan and Qi (2003:25) recommend a new framework, wherein a process-view of the supply chain is adopted and each chain activity is analysed within this context.

Banomyong and Supatn (2011:152) developed a supply chain performance assessment tool (SCPAT) for SMEs and proposed three areas for performance evaluation, namely cost, time and reliability. Wong and Wong (2007:120) used a multifactor performance measurement model that considered multiple inputs and output factors and addressed the day-to-day need to measure supply chain performance using new customer centric metrics such as the number of times orders were filled on time and the order delivery rate in addition to financial metrics.

Given a wide variety of models and key performance indicators (KPIs) available for measuring supply chain performance, Chae (2009:201) suggest that organisations focus on critical areas to group and align crucial KPIs according to industry standards, as so doing would also limit performance measurement to the chosen KPIs consistent with industry requirements. Nevertheless, Bourlakis, Vlachos and Zeimpekis (2009:110) argue that most decision makers use measurement metrics for appraising supply chain performance by identifying critical KPIs for monitoring and optimising supply chain performance.

2.4.5.3 Supply chain performance and human capital

According to Ganotalis (2010:1), general human capital and specific human capital are activities of human capital. General human capital involves an entrepreneur's performance and is measured in educational qualifications and working experience, while, specific human capital involves activities such as business education, industry related experience, skills specific and management experience. Innovate and managerial capabilities of team managers improve when they are associated with firm grow and performance of export (Lefebvre & Lefebvre 2002:281). Lack of management skills, business understanding and special talents, economic conditions and other factors such as poor business planning and lack of resources are the main reasons why organisations entering into a new market fail (Martin & Staines 2008:5).

According to Lyles, Saxton & Watson (2004:351), management evaluation competencies such as the qualification of the founder, experience of the entrepreneur, start-up experience, experience of management and experience in functional areas with new partnership performance in order for the organisation to compete with existing market leaders. The talent that the business funders have does not determine the performance of the business (Bosma, Van Praag, Thurik & De Wit 2004:227).

Hisrich and Drnovsek (2002:172) state that the contribution of human capital and investment in industry by business funders can improve the performance of small business. As a result, human capital can influence employment, profitability and the survival of a business. According to Smallbone and Welter (2001:249), when management competencies are measured by management experience, start-up experience, knowledge of the industry and education, this will impact the performance of the new SMEs positively. Management capacity in SMEs can be reduced if there is no proper education and training for small companies entering into the new small markets in South Africa (Herrington & Wood 2003). South Africa SMEs manager owners may lack the experience, knowledge, training also development related to the business environment that they are operating in. According to Robb and Fairlie (2008:1432), a range of results have been obtained regarding the relationship that is influence by performance and human capital.

2.5 SUMMARY OF CHAPTER 2

Chapter 2 has two main sections of related literature. These are the theoretical literature review and the empirical literature review. The theoretical literature review section discussed partnership theory that forms the theoretical grounding of this dissertation. The empirical literature review section consists of two sub-sections. The first section focuses on reviewing empirical literature on supply chain partnership. There are two non-mediated powers which are collaboration and integration, relationship as a mediator and supply chain performance as the outcome. Below is a diagrammatic representation of chapter 2.

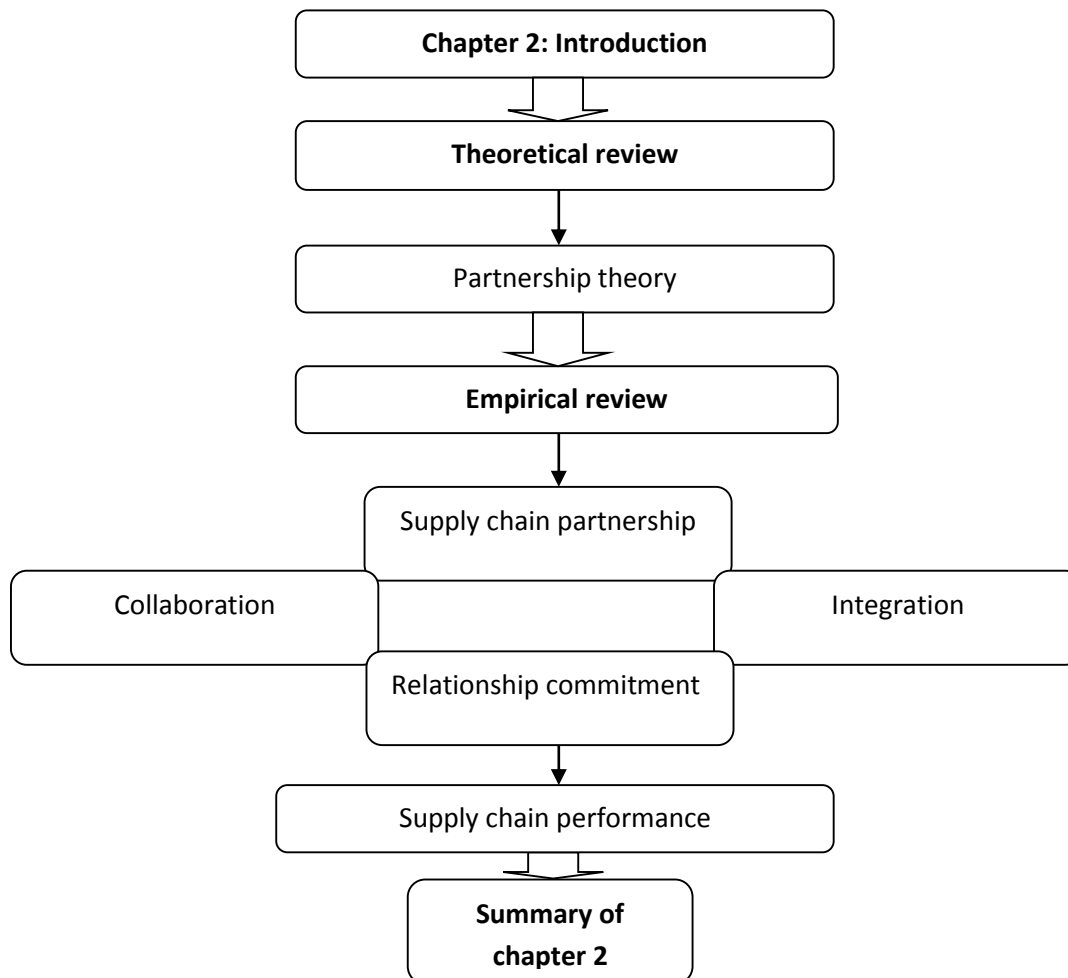


Figure 2.1: Diagrammatic representation Summary of chapter 2.

Source: Own

CHAPTER 3

RESEARCH MODEL AND HYPOTHESES DEVELOPMENT

3.1 INTRODUCTION

The aim of this chapter is to create a conceptual framework of the major dealer–SMEs manufacturer relationships in South African distribution channel systems premised on the reviewed marketing channels literature in chapter 2, Conceptual models and sets of critical hypotheses for the Study are formulated for further empirical examination. Figure 3.1 shows the conceptual framework for the study and contains supply chain partnership as a predictor with collaboration, integration and relationship commitment as mediators and supply chain performance as the outcome in South African SMEs.

3.2 RESEARCH MODEL

Drawing from the literature review, a research model was conceptualised. A hypothesised relationship between research constructs was developed thereafter. In the conceptualized research model, supply chain partnership is, as already outlined above, the predictor with, collaboration, integration and relationship commitment as the mediators and supply chain performance as the outcome. Figure 3.1 illustrates the proposed conceptual model.

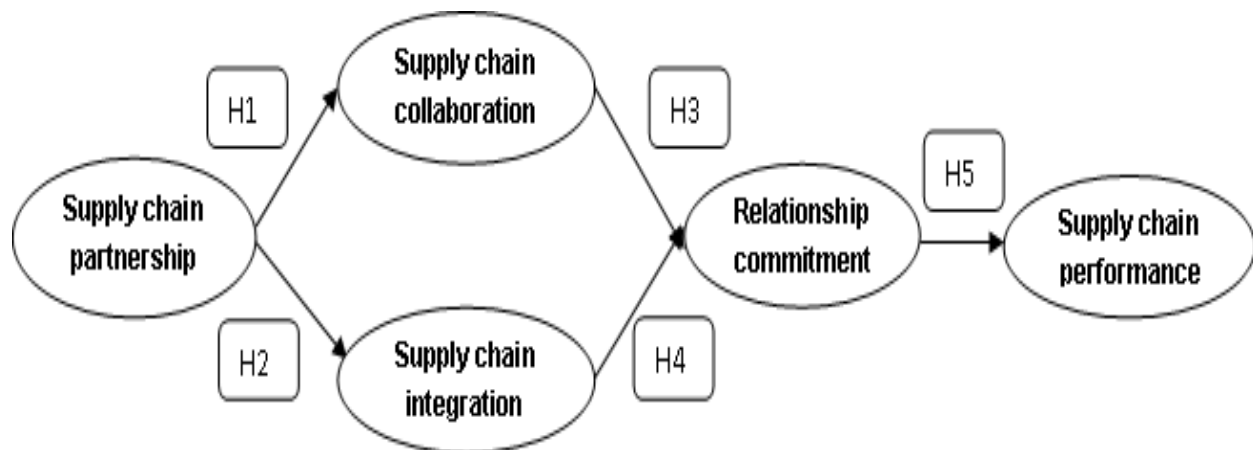


Figure 3.1 Conceptual Model

Source: Own

3.3 HYPOTHESES DEVELOPMENT

Hypotheses development shows the relationship between variables.

3.3.1 Supply chain partnership and collaboration

According to Pekar and Allio (2009:625), supply chain partnerships and collaboration enables organisation to become competitive in the market environment is usually implemented. While operational efficiency in manufacturing has been steadily improving, it has become apparent that cooperating with suppliers beyond the boundary of a manufacturer could effectively improve performance in whole supply chain (Lida 2012:180). It is no longer the case that firms perform all the vital functions in-house to build and maintain competitive advantages, Rather they partnering with other firms to execute some of the business activities (Zhang & Frazier 2011:853).

When organisations partner with suppliers in a supply chain, the responsibility of the corporate of the partners is critical and must be considered when the suppliers are to demonstrate business policy responsibility, behavior and practices that will satisfy the needs of the buyers (Gallear *et al.*, 2012:85). Consistent with the empirical evidence in linkage amongst supply chain partnership and collaboration, the present research proposes that greater supply chain partnership level is likely to have higher positive collaboration. Hence, the following hypotheses are formulated:

H1: Supply chain partnerships have a positive influence on collaboration in South African SMEs

3.3.2 Supply chain partnership and integration

Supply chain partnership capabilities, including structural, technological and logistical capabilities can play critical roles in driving superior performance from sustained competitive capabilities. According to Kim (2010: 1087), one of the paradoxes of business is that even though such supply chain capabilities are more vital for organisations to succeed and survive, the required financial and managerial resources to implement all of these capabilities are becoming increasingly scarce. A firm needs to attempt integration with other organisation members with special resources and technological knowledge to implement various supply chain capabilities.

Such integration can enable a firm to focus on opportunity and its main capabilities and certain area of proficiency (Simchi-Levi *et al.*, 2003).

According to Sahin and Robinson (2005:592), performance cannot be led by the different layers of integration as the easement of performance are not judge the same, coordination can provide an increase in the performance of the two parties, while the sharing of information will break only a certain portion of the benefit that are related to integration channels and the positive outcome of integration system are not distributed equality between partners. Consistent with the empirical evidence on the linkage between supply chain partnership and integration, the current research proposes that developed supply chain partnership levels, which resolve likely have higher constructive integration. The following hypotheses is formulated:

H2: Supply chain partnerships have a positive influence on supply chain integration in South African SMEs.

3.3.3 Collaboration and relationship commitment

In order to satisfy the individual needs of a specific customer, all sections within a supply chain have to work together as a collaborative unit. This level of cooperation is difficult to achieve as there is a natural tendency for each entity in the chain to want to optimise their unique results. The spirit of collaboration must be fostered so that the focus remains upon the optimisation of the results of the entire collaborative effort (Cooper *et al.*, 1997:68). To complicate matters, it is frequently the case that enterprises are part of more than one supply chain at the same time. Where separate financial entities are involved there is a decided danger that these will, in large measure, pursue parochial interests (Gattorna 2006:123), this means that on-going efforts must be made to sustain cooperation and collaboration. Lambert (1996:45) views relationship commitment as the main benefit of supply chain collaboration although other supply chain partners may include the financial contributions that are important in collaboration in supply chain. Consistent with the empirical evidence on the linkage between supply chain collaboration and relationship commitment, the current research proposes that greater levels of supply collaboration drive likely have higher confident influence of relationship commitment. Hence, the following hypotheses is formulated:

H3: Supply chain collaboration has a positive influence on relation commitment in South African SMEs.

3.3.4 Integration and relationship commitment

The consensus that emerges from the study is that supply chain integration in construction, as espoused within the Egan (1998:48) report, has to date proved rather elusive and hard to realise in practice. There are several reasons why fuller integration is so difficult to achieve. Usually, the larger client is in a very powerful position relative to the contractors and suppliers, who are typically much smaller organisations. It is clear from the studies that such clients, who in other areas of their business operations have sought to enter into full long-term strategic partnerships, are often reluctant to do so in their construction procurement.

Historically, it has apparently been to the client's economic advantage to treat each construction project as a one-off venture and to invite competition between tenders as a means of minimising costs (Borsh & Philips 2003:125). This same rationale is commonly used by main contractors when they deal with subcontractors and suppliers. In part, this pattern of behaviour is reinforced by the wide geographic spread of construction projects which often result in the employment of different local teams of contractors and suppliers. Consistent with the empirical evidence connection concerning supply chain integration and relationship commitment, the recent research proposes a complex levels of supply chain integration likely require higher positive influence of relationship commitment. Hence, the following hypotheses is formulated:

H4: Supply chain integration has a optimistic influence on relationship commitment in South African SMEs.

3.3.5 Relationship commitment and performance

Relationship commitment, in this context, involves the determination of SMEs to continue the cooperation and collaboration with other SMEs, in the pursuit of joint goals and shared values. (Sheu & Hu 2009:21). In the 1990s and subsequently Western business academics became fascinated by the traditional Chinese notions of relationship or guanxi. At a time when the need for partnership commitment was receiving a good deal of attention in the West the Chinese concept seemed to hold the promise of particular relevance. Essentially what is involved in

guanxi is the building of a network of relationships. This seemed to relate to the kind of relationship found between business partners, associates, and suppliers. The problem is that there is significant cultural dissonance involved in trying to use a term peculiar to a culture as rich and as complex as traditional Chinese culture and one as Westernised as our own. Goh and Sullivan (2014:153) explain just how complex the Chinese concept is in an article entitled the most misunderstood business concept in China.

It appears that there are several different types of guanxi and the concept covers several other aspects such as ganqing which refers to emotional attachment, Xinyong which means credit but it is used in the sense of trust, Renqing that refers to the moral obligation to maintain a relationship, mianzi which is the important Chinese concept of Face in the sense of pride or dignity, lian that refers to the individual's ability to abide by the social morality of the culture, and bao meaning return. From this one can only conclude that the use of these terms in the West is to a large extent superficial. and one could question the value of using these terms. Whether one attempts to use these terms or not, the issue of relationship remains as something of solid concern and for this reason the following hypotheses is formulated:

H5: relationship commitment has a progressive influence on supply chain performance in South African SMEs.

3.4 SUMMARY OF CHAPTER 3

Chapter 3 provides the conceptualised models for the research study that constitute this dissertation. The research hypotheses for the study were also declared. The study centers the relationship amid on the variables and how they influence each other. Figure 3.2 presenting a summary of the whole chapter. Below is a diagrammatic representation of chapter 3.

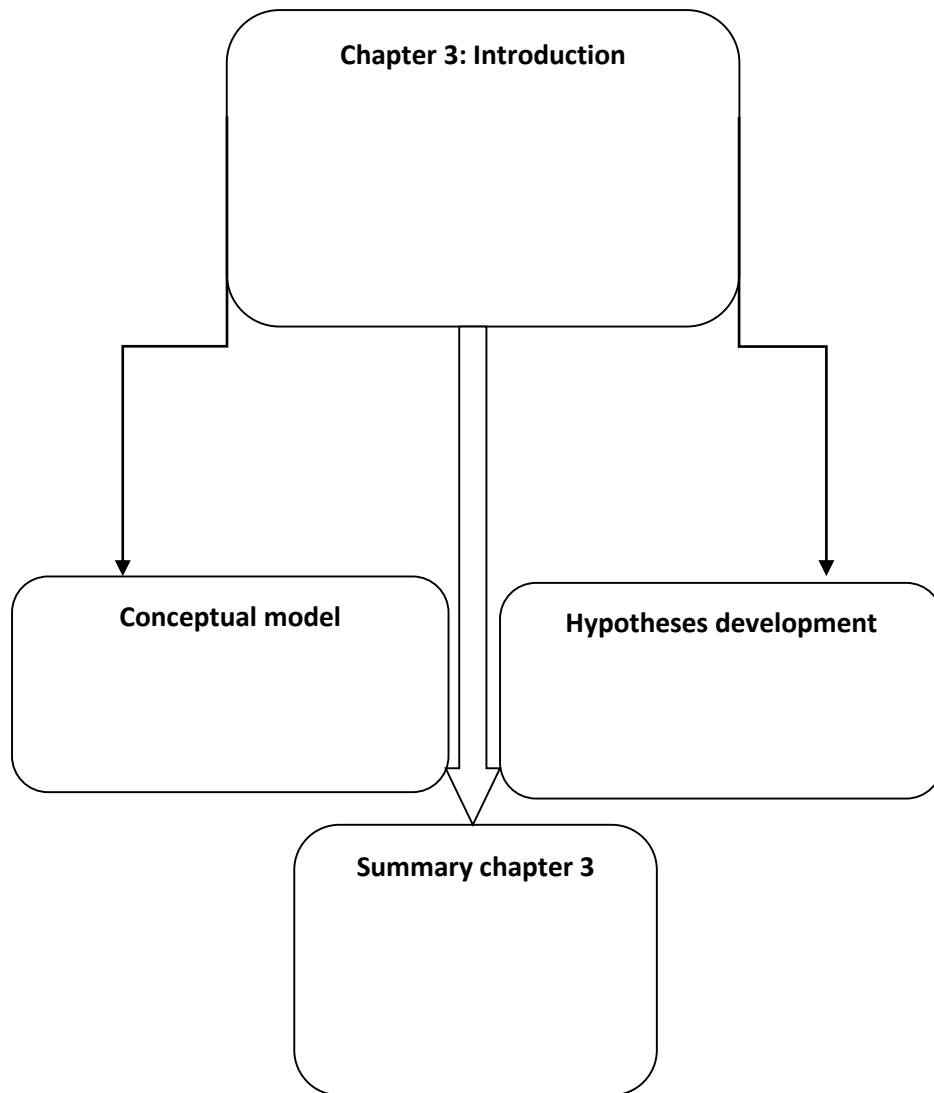


Figure 3.1: Diagrammatic representation Summary of chapter 3.

Source: Own

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

This chapter discusses the research philosophy, research design and methodology, research approach, measurement and scaling, data collection, data collection technique and ending with a diagram summary of the chapter.

4.2 RESEARCH PHILOSOPHY

Dibartolo (1998:350) asserts that every scientific premise and research method is attached to some philosophical framework and as such, it is important that researchers within a particular field be conscious of the philosophical orientation that serves as the foundation for developing a hypotheses and advancing knowledge. According to Shadish (1995:63), the philosophical aspect is as important as the methods employed, helping us to reflect more clearly and fully about why we do what we do. Essentially, it is a “thinking activity” that is intended to enhance our comprehension about the world and about ourselves (Dibartolo 1998:354). Philosophy is defined as "the love, study, or pursuit of wisdom or of knowledge of things and their causes, whether theoretical or practical" (Little, Fowler & Coulson 1973:1570).

Deleuze and Guattari (2009:20) and Antila (2013:431) describe philosophy as the activity that encompasses the creation of concepts and that these concepts are made and adapted in the course of the history of philosophy. It is a reflection that demonstrates how science as it is essentially practiced, can render knowledge about the world (Dibartolo 1998:354). When referring to the philosophy of a particular field, this does not purport to solve historical, physical or legal questions as to the conceptual foundations of the study that creates such thinking (Blackburn 1996:286). Laudan (2007:568) further contends that philosophy should not seek to examine hypotheses in terms of the truth or falacy, but whether it contributes to the problem-solving process or not. Philosophy provides criterion for determining whether or not progress has occurred within a given field and it facilitates the ability to express and support ideas (Dibartolo 1998:356). Interpretative and positivist paradigms are known to underpin quantitative and qualitative research respectively (Petty, Thomson & Stew 2012:269).

4.3 RESEARCH DESIGN AND METHODOLOGY

Research methodology is defined “as a system of explicit rules and procedures upon which research is based and against which claims for knowledge are evaluated” (Frankfort & Nachmias 1997:201). Robson (2011:152) defines the term as the hypothetical, rational and supporting settings to social research and their inference in the conduct of research and the application of certain research methods. It is therefore according to Denzin and Lincoln (2000:20) and Creswell (2009:235) a system of analysis that directs a set of processes.

Similarly, Petty, Thomson and Stew (2012:14) assert that the term refers to a procedure that is employed for the purpose of acquiring and evaluating data to create new knowledge. Research methodologies have an influence on the validity and the possibility of generalisation of a study (McGrath & Brinberg 2007:32) and play a vital role in knowledge development (Yang, Wang & Su 2006: 52). Understanding and using a relevant methodology into the present study is essential in order to identify the unit of analysis and employ compatible methods that will provide intended results.

The study uses descriptive research to depict the participants in an accurate way. More simply put, descriptive research is all about describing people who take part in the study. Personal interview was used as it gives brief discussion with an individual about a topic.

4.3.1 Quantitative research

Quantitative research is described by Burns and Grove (2003:19) as “a systematic subjective approach used to describe life experiences and situations to give them meaning” (Burns and Grove. 2003:19). Similarly it is described by Holloway and Wheeler as “a form of social enquiry that focuses on the way people interpret and make sense of their experience and the world in which they live” (Holloway and Wheeler (2002:30). A quantitative research approach was undertaken for the purpose of this study. Since it is important to simplify, fine-tune and extend what is meant by the thoughts regarding the phenomena being investigated, a quantitative approach becomes useful in that it employs measurement procedures that incorporate concrete specifications of the particular phenomenon of interest (Westerman 2014:268).

The motive to use the quantitative approach was in the study was to discover and pronounce the influence of supply chain partnership, collaboration, integration and relationship commitment as predictors of supply chain performance in South African SMEs.

4.4 RESEARCH APPROACH

This study consist of two research approaches namely Probability sampling includes the following simple random sampling, systematic sampling, stratified sampling, cluster sampling; and multi-stage cluster sampling (Kumar *et al.*, 2002:421). Probability Sampling removes the possibility that bias on the part of researcher will enter into the selection process of cases. By virtue of random selection, the laws of mathematical probability may be applied to estimate the accuracy of the sample, with probability sampling, one knows to which population the sample may be generalised as well as the limits of universality (Kumar *et al.*, 2002:422).

Non-probability sampling is not based on determining the probability of an element being included in the sample, common non-probability sampling includes Accidental/Convenience sampling, Purposive or Judgmental Sampling and Quota Sampling (age, gender, race, language etc.) (Kumar *et al.*, 2002:422).

4.4.1 Target population

The population of a study is “the total number of units from which data can be collected”, Parahoo (1997:218).

The targeted population was that of manufacturing SMEs that have 100 or less employees in Gauteng, South Africa. These SME manufacturers encompass almost every side of the economy in South Africa that include processing of food, making deodorants, leather, elastic, iron building, engineering furniture, building and sculpture (Gono 2006:9).

4.4.2 Sample frame

A sample frame is distinct as “a selection of subjects from an overall population group that has been clearly defined” (Santy & Kneale 1998:142). It refers to the researched environment (Pedhazur & Schmelkin 1991:210) and the subjects used in a study (Yang *et al.*, 2006:321).

After deciding the population of the sample, the next step was to choose the sample frame against which the sample was to be drawn. According to Fowler (1993:45), there are a number of characteristics that a good sample frame should consider including comprehensiveness, probability of selection, and efficiency. In this study, members of South Africa were sampled.

4.4.3 Sample size

The sample size refers to the quantity of elements included in the study. A good sample has two properties, representativeness and adequacy (Singh 2006:234). When attempting to draw a sample, it is important to identify the most favourable point between the costs and sufficiency of the sample size (Yang *et al.*, 2006:32). According to Randall and Gibson (1990:41), the adequacy of the sample size is determined by certain aspects of the study such as the manner in which respondents are selected, the constructs under-study, the rationale behind the research as well as the intended processes of data analysis. Sample size offers center of the valuation of selection mistake. It has a direct impact on the appropriateness and the statistical power of structural equation modelling to be used in the current study.

The determination of the final sample size involves judgment as well as calculation. According to Kumar *et al.* (2002:318), four factors determine the sample size: the number of groups within the sample, the value of the information and the accuracy required of the results, the cost of the sample, and the variability of the population. The study used non-probability sampling of 271 to understand how supply chain relationship influence performance in SMEs manufacturers in Gauteng Province.

4.4.4 Sample method

A critically important decision for a quantitative study involving a sample is how the sample units are to be selected. The decision requires the selection of a sampling method. The choice between probability and non-probability sampling methods often involves both statistical and practical considerations. Statistically, probability sampling allows the researcher to demonstrate the sample's representativeness, an explicit statement as to how much variation is introduced, and identification of possible biases (Kumar *et al.*, 2002:306). Therefore, based on this reason probability sampling is considered appropriate for this survey-based study. According to Fowler

(1993:16), the sample of the population is stratified in around certain social capricious as are shared in a similar way.

Stratified sampling improves the sampling efficiency by increasing the accuracy at a faster rate than the costs increase (Kumar *et al.*, 2002:421). In the study, since the data in the sampling frame are considered comprehensive and can easily be divided into strata based on Gauteng, a proportional stratified sampling technique for the distribution of questionnaires was adopted. Students from the Vaal University of Technology were employed to issue and gather the questionnaires after arrangements between targets SMEs companies made by telephone. Part of research plan that indicates how cases are to be selected for observation that is probability sampling or non-probability sampling to be used.

4.5 MEASUREMENT AND SCALING

A structured questionnaire was designed for the study to collect data from a relatively large sample size. The questions are mainly involved with attitude or perception measurement. “Measurement is a standardised process of assigning numbers or other symbols to certain characteristics of the objects of interest, according to pre-specified rules. Scaling is the process of creating a continuum on which objects are located according to the amount of the measured characteristic they possess” (Aaker *et al.*, 2000:274).

According to Aaker *et al.*(2000:586), measurement and scaling are equipment used in the scientific method and are implemented across many marketing research establishment The obligation of records is completed according to guidelines that should parallel to the properties of all that is being calculated. Four types of scales are usually categorised for attitude measurement (Churchill 1999:91; Kumar *et al.*, 2002:48; Hair *et al.*, 2006:56).

1. Likert scale also known as Interval scale: assigns numbers as a way to label or identify subjects or objects (Aaker *et al.*, 2000:586). Not only separates objects by rank order but also represents equal increments of the attribute being measured (Aaker *et al.*, 2000:586), the classic example of an interval scale is Celsius temperature because the difference between each value is the same. For example, the difference between 60 and 50 degrees is a measurable 10 degrees, as is the difference between 80 and 70 degrees.

2. Ordinal scale: serves to order or rank objects according to some characteristics (Aaker *et al.*, 2000:586).

3. Ratio scale: is a special kind of interval scale that has a natural or absolute zero point, one for which there is universal agreement about its location (Hair *et al.*, 2006:56). This is the only type of scale that permits comparisons of absolute magnitude.

Among the existing multi-item scales, A Likert / Interval scale of 5-point multi-item measures is employed to measure the constructs in the current study (Aaker *et al.*, 2000:587).

4.6 DATA COLLECTION

The instrument used to gather data was the focus group discussion. This tool was selected because by canvassing opinion and by gathering information from a number of different sources and by sharing this in a group situation this reduces the likelihood of information bias. If bias emerges it is likely to be challenged by other members of the group. This lends credibility to the conclusions drawn. (Parahoo 1997:52).

4.7 DATA COLLECTION TECHNIQUE

The questionnaires were the main research instrument in this research. The role of the fieldworker was to elicit information, during the focus group discussion.

4.7.1 Personal interview

The personal interview method was implemented for the study and it involved considerably higher administration costs, due to organising of the appointments, travel and the fact that each survey had to be administered separately. Personal interview surveys tend to go into more detail than any of the other methods, which adds to the considerable time required for each survey. The responses are usually staggered due to the lengthy process and the availability of respondents. This approach differs from informal interviews in that a survey follows a more structured procedure of asking questions (Blaxter, *et al.*, 1996:153). The benefits of this approach are that the surveyor interacts with the respondents and is able to clarify any misunderstandings and the results are more detailed and possibly more accurate than e-mail and mail out methods.

4.8 MEASUREMENT INSTRUMENT

Research scales were set mainly on the basis of previous works. Minor adaptations were made in order to fit the current research context and purpose. Some five-item scales used to measure non-mediated power were adapted from the previous works of Cao and Zhang (2011:65) for collaboration, Flynn, Huo and Zhao (2010:354) for integration and supply chain performance, Megha and Cheng 2014:123 for relationship commitment and Gallear, Ghobadian and Chen (2012:59) for supply chain partnership.

As pointed out earlier, all the measurement items were measured on 5-Point Likert-type scales with 1= strongly disagree to 5= strongly agree to express the degree of agreement.

4.9 MODEL FIT CRITERIA, DESCRIPTION AND ACCEPTABLE LEVEL

The table below consists of definitions, descriptions and acceptable levels implemented when checking reliability.

Model fit criteria	Description	Acceptable level	Source
Chi-square (χ^2/DF)	Method used to assess the general fit of the model	Value had to be below 3	Chen and Lin (2010:2087), Chinomona (2011:118)
Normed Fit Index (NFI)	Index that evaluates the model by comparing the χ^2 value of the model to the χ^2 of the null model	Value had to be greater than 0.9	Hooper, Coughlan and Mullen (2008:55) Bentler and Bonnet (1980:588)
Tucker-Lewis Index (TLI)	Index that prefers simpler models and is known to address the issue of sample size associated with NFI	Value must meet or exceed 0.9	Hooper <i>et al.</i> , (2008:55): Chinomona (2011:118)

Incremental Fit Index (IFI)	Index developed to rectify the issue of parsimony and sample size related to NFI	Value must meet or exceed 0.9	Bollen, (1989:25), Chinomona (2011:118)
Comparative Fit Index (CFI)	Index that presupposes that all latent variables are uncorrelated and compares the sample covariance matrix with the null model	Value must meet or exceed 0.9	Hu and Bentler (2009:100) Chinomona, (2011:118) Hooper <i>et al.</i> , (2008:55)
Root mean square error of approximation (RMSEA)	Index that informs how well the model, with indefinite but optimally selected parameter estimates would fit the populations covariance matrix (Byrne, 1998)	Value must fall below 0.05 and 0.08	Byrne (2004:42) Brown <i>et al.</i> , (1993), Curran and Hussong (2002:59)

Source: Own

4.10 SUMMARY OF CHAPTER 4

Chapter 4 attended to data screening, sample description, testing for the measures accuracy and finally checking the models fit to the data. In addition to this, the findings from the two research models applied in this dissertation indicated that the data set provided a good fit with the conceptualized model. Below is a diagrammatic representation of chapter 4.

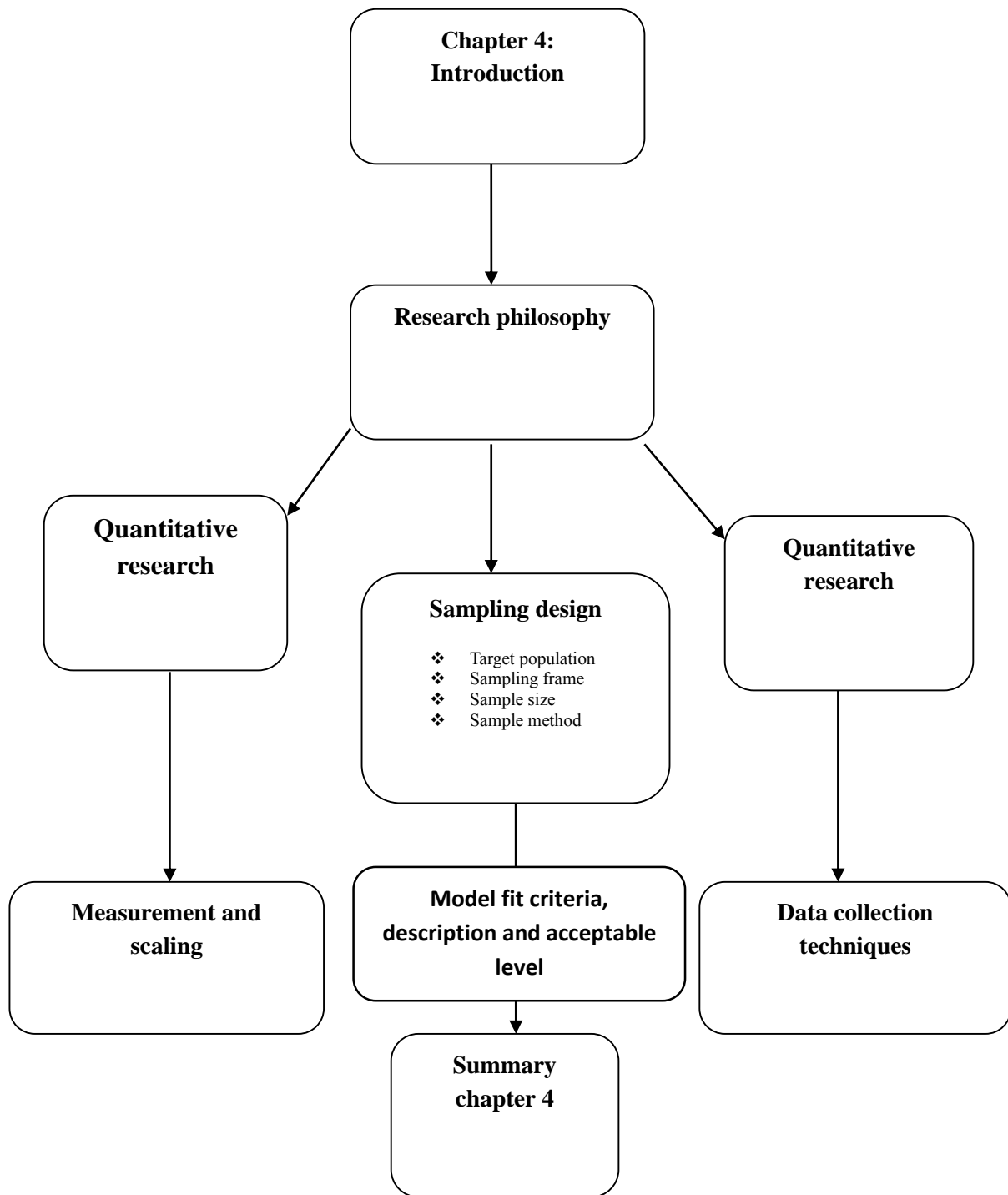


Figure 4.1: Diagrammatic representation summary of chapter four.

Source: Own

CHAPTER 5

DATA ANALYSIS AND INTERPRETATION

5.1 INTRODUCTION

This chapter presents the data analysis results, up to the assessment of the fit with the research models. The chapter commences with a description of the sample and this was followed by the presentation of data analysis procedure. The sample description is then provided followed by a declaration of the test of measures and accuracy analysis statistics for measure reliability, the Cronbach's Alpha, the Composite Reliability (CR) value and the Average Value Extracted (AVE) are used to for validity; Factor Analysis is used to check convergent validity, correlation matrix and chi-square value- CFA difference is used to check discriminant validity.

This section is followed by a presentation of the research models fit. Numerous indicators such as the chi-square value, Goodness of Fit Index (GFI), Normed Fit Index (NFI), Tucker-Lewis Index (TLI), Incremental Fit Index (IFI), Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA) used to ascertain if the research models fit the data. Finally, a summary of chapter five is provided.

5.2 PARTICIPANTS' PROFILE DATA

Participant profile data give the information regarding individual who participated in answering the research questionnaires.

Table 5.1: Participants' profile data

Number of Company employees	Current position in the company		Region of the company				
	Freq	%	Freq	%			
1-25	45	16.6	97	35.8	Gauteng	271	100

26-35	78	28.8	Buyer	31	11.4	Limpopo		
36-45	62	22.9	Senior Manager	71	26.2	Free State		
46-55	64	23.6	Junior Manager	50	18.5	Mpumalanga		
56 & above	22	8.1	Other	22	8.1	Western cape		
Total	271		Total	271		Total	271	
Form of business ownership	Freq	%	Company industry	Freq	%			
Sole proprietor	53	19.6	Supply chain	24	8.9			
Partnership	52	19.2	Logistics	60	22			
Close corporation	53	19.6	Mining/quarrying	17	6.3			
Private company	5	21.4	Wholesale/Retail	100	36.9			
Public company	46	17.0	Motor trade	22	8.1			
Other	9	3.3	Finance	19	7.0			
			Personal services	22	8.1			
			Other	7	2.6			

Total	271		Total	271				
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Source: Own

Table 5.1 shows that more than 75 percent of the participating SMEs employ more than 10 workers and most SMEs employ between 22-44 workers. Half of the participating manufacturing SMEs are at managerial positions, a majority of SMEs manufacturing firm were close corporation (CC) were most of the data was collected. The analysis also indicated that supply chain and wholesale/retail companies equally occupied the research sample, although the former shared slightly higher proportion (58.9%). Finally, the data was collected in Gauteng making (100%).

5.3 SCALE ITEM RESULTS

Scale item results are based on frequency and percentages from the data collected, indicating how many individual strongly disagree, disagree, moderately agree, agree and strongly agree with the research questionnaires.

Table 5.2: Scale item results

		Scale				
		Frequency & Percentage (%)				
Variable	Measurement item	Strongly disagree	Disagree	Moderately agree	Agree	Strongly agree

Supply chain partnership	SCSP1	49 (16.3%)	28(9.3%)	72(24%)	71(23.7%)	51(17%)
	SCSP2	25(8.3%)	17(5.7%)	77(25.7%)	90(30.0%)	62(20.7%)
	SCSP3	40(13.3%)	26(8.7%)	51(17.0%)	72(24.0%)	82(27.3%)
	SCSP4	45(15.0%)	22(7.3%)	41(13.7%)	72(24.0%)	91(30.3%)
	SCSP5	50(16.7%)	36(12.0%)	56(18.7%)	59(19.7%)	70(23.3%)
Supply chain collaboration	SCC1	8(2.58%)	17(5.17%)	90(29.89%)	120(39.85%)	65(22.51%)
	SCC2	6(2.0%)	19(6.3%)	81(27.0%)	102 (34.0%)	63(21.0%)
	SCC3	7(2.3%)	14(4.7%)	50(16.7%)	103(34.3%)	97(32.3%)
	SCC4	11(3.7%)	20(6.7%)	69(23.0%)	101(33.7%)	70(23.3%)
	SCC5	7(2.3%)	7(2.3%)	51(17.0%)	81(27.0%)	125(41.7%)
Supply chain integration	SCI1	15(5.0%)	18(6.0%)	72(24.0%)	100(33.3%)	66(22.0%)
	SCI2	12(4.0%)	23(7.7%)	80(26.7%)	91(30.3%)	65(21.7%)
	SCI3	14(4.7%)	28(9.3%)	65(21.7%)	82(27.3%)	82(27.3%)
	SCI4	13(4.3%)	17(5.7%)	71(23.7%)	96(32.0%)	74(24.7%)
	SCI5	13(4.3%)	20(6.7%)	68(22.7%)	90(30.0%)	80(26.7%)
	SCI6	4(1.3%)	2(.7%)	60(20.0%)	110(36.7%)	95(31.7%)

Relationship commitment	RC1	63(21.0%)	24(8.0%)	53(17.7%)	84(28.0%)	47(15.7%)
	RC2	59(19.7%)	37(12.3%)	53(17.7%)	70(23.3%)	52(17.3%)
	RC3	64(21.3%)	34(11.3%)	58(19.3%)	67(22.3%)	48(16.0%)
	RC4	48(16.0%)	37(12.3%)	79(26.3%)	67(22.3%)	40(13.3%)
	RC5	68(22.7%)	23(7.7%)	54(18.0%)	65(21.7%)	61(20.3%)
Supply chain performance	SCP1	23(7.7%)	14(4.7%)	77(25.7%)	94(31.3%)	63(21.0%)
	SCP2	11(3.7%)	9(3.0%)	76(25.3%)	92(30.7%)	83(27.7%)
	SCP3	8(2.7%)	13(4.3%)	59(19.7%)	105(35.0%)	86(28.7%)
	SCP4	9(3.0%)	10(3.3%)	79(26.3%)	103(34.3%)	70(23.3%)
	SCP5	9(3.0%)	18(6.0%)	54(18.0%)	108(36.0%)	82(27.3%)
	SCP6	4(1.3%)	43(14.3%)	120(40.0%)	104(34.7%)	271(90.3%)

Source: Own

Note: SCSP=Supply chain partnership, SCC =Supply chain collaboration SCI= supply chain integration, RC= relationship commitment and SCP= supply chain performance.

The Table shows that the research constructs were measured on a 5-point Likert scale. Having measured the construct of supply chain partnership with five measurement items, results indicate that respondents mostly agreed with all five of the measurement items.

Supply chain collaboration appears to have a response pattern similar to that of supply chain partnership as well. Five measurement items were employed. The results indicate that respondents mostly agreed with all five of the measurement items.

Supply chain integration on the other hand was measured with six question measurement items. Respondents in this instance appear to have been in line with agreement and strong agreement as well.

Relationship commitment appears to have a response pattern similar to that of supply chain partnership and collaboration, were five measurement items are employed. The results indicate that respondents mostly agreed with all five of the measurement items.

Lastly, the research construct supply chain performance was measured using six question measurement items. In this case respondents were mostly in line with agreement as shown from the table above.

5.4 RELIABILITY

In the current study, Cronbach’s Alpha, Composite reliability (CR) and Average Variance extracted (AVE) were conducted in order to assess the reliability of the measures. Table 5.3 provides the results for the tests which were elaborated. The Descriptive statistics column indicates the mean value regarding responses otherwise described above as well as respective standard deviation values. The means shows the percentage on how the despondence rate the question based on a 5-point Likert scale.

Table 5.3: Scale accuracy analysis

Research constructs	Descriptive statistics		Cronbach’s test		CR	AVE	Factor loadings
	Mean	SD	Item-total	α value			

Supply chain partnership	SCPS1			0.538				0.665 ^c
	SCPS2			0.571				0.687 ^c
	SCPS3			0.646				0.756 ^c
	SCPS4	3.92	0.72	0.562	0.793	0.95	0.79	0.628 ^c
	SCPS5			0.540				0.570 ^c
Supply chain collaboration	SCC1			0.634				0.734 ^c
	SCC2			0.661				0.790 ^c
	SCC3			0.674				0.731 ^c
	SCC4	4.04	0.76	0.700	0.848	0.97	0.87	0.740 ^c
	SCC5			0.609				0.628 ^c
Supply chain integration	SCI1			0.576				0.684 ^c
	SCI2			0.648				0.735 ^c
	SCI3	3.95	0.81	0.679	0.799	0.96	0.86	0.771 ^c
	SCI4			0.559				0.659 ^c
	SCI5			0.634				0.731 ^c
	SCI6			0.646				0.628 ^c
Relationship commitment	SCP1			0.543				0.683 ^c
	SCP2			0.524				0.646 ^c

	SCP3	3.72	0.74	0.544	0.776	0.94	0.76	0.635 ^c
	SCP4			0.559				0.614 ^c
	SCP5			0.602				0.636 ^c
	SCP6			0.363				0.734 ^c
Supply chain performance	SCP1	4.09	0.76	0.576	0.850	0.95	0.88	0.687 ^c
	SCP2			0.648				0.756 ^c
	SCP3			0.646				0.731 ^c
	SCP4			0.562				0.684 ^c
	SCP5			0.674				0.735 ^c
	SCP6			0.700				0.771 ^c

Source: Own

Note: SCSP=Supply chain partnership, SCC =Supply chain collaboration SCI= supply chain integration, RC= relationship commitment and SCP= supply chain performance.

SD= Standard Deviation CR= Composite Reliability AVE= Average Variance Extracted

5.4.1 Cronbach's alpha test

From the results provided in Table 5.3, the Cronbach's alpha value for to each research concepts range from 0.776 to 0.850 and therefore they are above 0.7 as recommended by Nunnally and Bernstein (1994). Furthermore, the item to total values ranged from 0.538 to 0.700 and were therefore above the cutoff point of 0.3 as advised by Dunn, Seaker and Waller (1994:145). The Cronbach's alpha results indicated in table 5.3 therefore validate the reliability of measures used in the current study.

5.4.2 Composite reliability (CR)

The composite reliability test directed in order to examine the internal steadiness of each research construct, as recommended by Chinomona (2011:108) and Nunnally (1967). The composite reliability was examined with the subsequent formula:

$$CR_{\eta} = \frac{(\sum \lambda_{yi})^2}{[(\sum \lambda_{yi})^2 + (\sum \epsilon_i)]}$$

Composite Reliability = (square of the summation of the factor loadings) / {(square of the summation of the factor loadings) + (summation of error variances)}

A composite reliability index that is greater than 0.6 signifies sufficient internal consistency of the construct (Nunnally 1967:125). In this regard, the results of composite reliability that range from 0.94 to 0.97 in table 6.3 confirm the existence of internal reliability for all constructs of the study.

5.4.3 Average variance extracted (AVE)

According to Chinomona (2011:109) “The average variance extracted estimate reflects the overall amount of variance in the indicators accounted for by the latent construct”. The Average Variance Extracted was examined using the following formula: $V_{\eta} = \frac{\sum \lambda_{yi}^2}{(\sum \lambda_{yi}^2 + \sum \epsilon_i)}$

AVE = {(summation of the squared of factor loadings) / {(summation of the squared of factor loadings) + (summation of error variances)}}

A good representation of the latent construct by the item is identified when the variance extracted estimate is above 0.5 (Sarsted *et al.*, 2014:109; Fornell *et al.*, 1981:39; Fraering & Minor 2006:284). Therefore the results of AVE that range from 0.76 to 0.87 in Table 5.3 authenticate good representation of the latent construct by the items.

5.5 VALIDITY

Validity indicates how the research is structured, more specifically; validity applies to both the design and the methods of the research. Validity in data collection means that the findings truly represent the phenomenon measured. Valid claims are solid claims.

5.5.1 Convergent Validity

Convergent validity determines the degree to which a construct converges in its indicators by giving explanation of the items' variance (Sarsted *et al.*, 2014:108). Apart from assessing the convergent validity of items through checking correlations in the item-total index (Nusair *et al.*, 2010:316), factor loadings were also examined in order to identify convergent validity of measurement items as recommended by Sarsted *et al.* (2014:108). According to Nusair *et al.* (2010:316), items exhibit good convergent validity when they load strongly on their common construct.

The literature maintains that a loading that is above 0.5 signifies convergent validity (Anderson *et al.*, 1988:411). In this regard, the final items used in the current study loaded well on their respective constructs with the values ranging from 0.570-0.790 (see Table 5.3). This therefore indicates good convergent validity where items are explaining more than 50 percent of their respective constructs. Furthermore, since CR values are above the recommended threshold of 0.6, this substantiates the existence of convergent validity.

5.5.2 Discriminant validity

Proceeding from the discussion of discriminant validity in chapter 5, Hair, Hult, Ringle and Sarsted (2014:108) assert that when determining if there is discriminant validity, what had to be done is to identify whether the observed variable displays a higher loading on its own construct by comparison with any other construct included in the structural model. To check if there is discriminant validity is to assess whether or not the correlation between the research constructs is less than 1.0 (Chinomona 2011:110). As indicated in Table 5.4 below, the inter-correlation values for all paired latent variables are less than 1.0, hence confirming the existence of discriminant validity.

Table 5.4: Correlation between the constructs

Research constructs	SCSP	SCC	SCI	RC	SCP
---------------------	------	-----	-----	----	-----

Supply chain partnership	1				
Supply chain collaboration	0.633**	1			
Supply chain integration	0.576**	0.625**	1		
Relationship commitment	0.554**	0.617**	0.567**	1	
Supply chain performance	0.628**	0.652**	0.578**	0.668**	1

Source: Own

** indicates significant at $P < 0.01$ level

Note: SCSP=Supply chain partnership, SCC =Supply chain collaboration SCI= supply chain integration, RC= relationship commitment and SCP= supply chain performance.

5.6 MODEL CONFIRMATORY FACTOR (CFA)

Model confirmatory factor is a multivariate statistical procedure that is used to test how well the measured variables represent the number of constructs. In confirmatory factor analysis, researchers specify the number of factors required in the data and which measured variable is related to which latent variable. Confirmatory factor analysis is a tool that is used to confirm or reject the measurement theory.

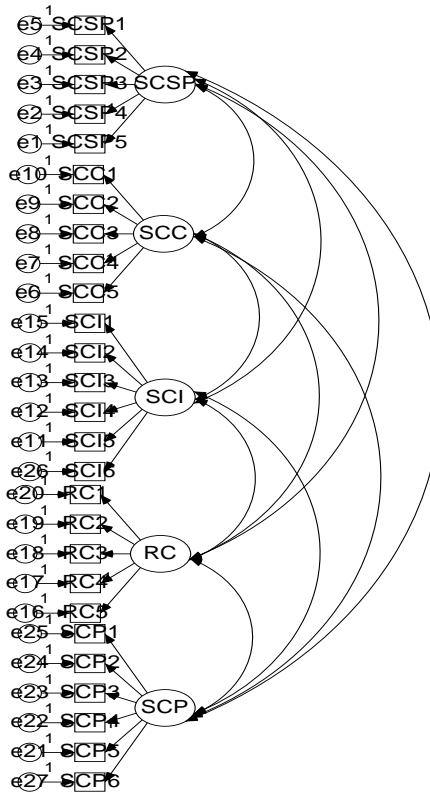


Figure 5.1: CFA Model

Source: Own

Note: SCSP=Supply chain partnership, SCC =Supply chain collaboration SCI= supply chain integration, RC= relationship commitment and SCP= supply chain performance

5.6.1 CFA model

Figure 5.1 below is an illustration of the Confirmatory factor analysis model. On the model, the circles or ovals represent the latent variables while the rectangles or squares represent the observed variables with their adjacent measurement errors in circular or oval shape. The bidirectional arrows signify the correlation between the variables. “The CFA model is a pure measurement model with un-gauged covariance between each of the possible latent variable pairs” (Jenatabadi *et al.*, 2014:27). The outcome of this procedure is goodness-of-fit values that additionally improve the measurement scale levels that are the observed variables, through measuring the related research constructs (Hair *et al.*, 1998). These goodness-of-fit values are used to assess the measurement model as recommended by Bone *et al.*, (1989:105), Hair *et al.*,

(1998:18); Joreskog *et al.*, (1993:65); Schumacker *et al.*, (2004:44). This assessment is discussed in the section below.

5.6.2 Model confirmatory factor fit assessment

Model confirmatory factor fit assessment predicting the performance of measures in a confirmatory factor analysis is presented. A pretest item-sort task draws on the concept of validity context are proposed: chi-square (χ^2/DF), normed fit index (NFI), tucker-lewis index (TLI), tucker-lewis index (TLI), incremental fit index (IFI), comparative fit index (CFI) and root mean square error of approximation (RMSEA).

Following the two-step procedure of structural equation modelling (Anderson *et al.*, 1988:411) the measurement model validation was assessed through CFA using AMOS version 7. According to literature the purpose of model fit evaluation is to check how well the conceptual model is represented by the sampled data (Jenatabadi *et al.*, 2014:27). First, deletion of some measurement items was carried out in order to elicit acceptable fit and the resultant scale accuracy. Thereafter, model fit was inspected through examining goodness-of-fit values i.e. Chi-square/degrees of freedom (χ^2/DF), NFI, TLI, IFI, CFI and RMSEA.

According to Jenatabadi *et al.* (2014:27), the goodness-of-fit values can be employed to examine the overall model and the hypotheses and to determine how much the expected covariance can be fine-tuned to the observed covariances in the data. If the goodness-of-fit indices are acceptable, then it can be concluded that the constructs of the items targeted constructs can be measured adequately (Jenatabadi *et al.*, 2014:27). Table 5.6 below provides the model fit results elicited through carrying out CFA. They are discussed hereafter.

Table 5.6: Model fit results (CFA)

Model fit criteria	Chi-square(χ^2/DF)	NFI	TLI	IFI	CFI	RMSEA
Indicator value	2.626	0.900	0.900	0.912	0.911	0.069

Source: Own

Note: (χ^2/DF)= Chi-square/degrees of freedom NFI= Norm Fit Index TLI= Tucker-Lewis Index IFI= Incremental Fit Index CFI= Comparative Fit Index RMSEA= Root mean square error of approximation

Chi-square (χ^2/DF)

A chi-square test is usually used to examine the general fit of the model (Chen *et al.*, 2010:2087). A chi-square value over degree of freedom of value that is below 3 is an indication of acceptable model fit as implied by Chinomona (2011:118). In Table 5.6, the indicator value for chi-square over degree of freedom is 2.626 which therefore signify an acceptable model fit.

Norm Fit Index (NFI)

As advocated by Bentler *et al.* (1980:588), an NFI value that is greater than 0.9 is an indication of good fit. The NFI value (0,900) in Table 5.6 meets the recommended threshold and therefore confirms good fit.

Tucker-Lewis Index (TLI)

A TLI value that meets or exceeds the recommended threshold of 0.9 (Chinomona 2011:118) is an indication of acceptable model fit. In Table 5.6 the TLI value is (0.900) that is equal recommended figure. This therefore confirms acceptable model fit.

Incremental Fit Index (IFI)

An IFI should be equal or greater than 0.9 in order to validate a good model (Chinomona 2011:106). The IFI value (0.912) exhibited in Table 5.6 is above the recommended threshold and thus validates a good model fit.

Comparative Fit Index (CFI)

The comparative fit index is an amended form of the NFI which accounts for the sample size (Byrne 1998:23), functions well even when the sample size is small (Tabachnick & Fidell 2007:232). According to the relevant literature, a value equal to or greater than 0.9 is an indication of acceptable model fit (Hu *et al.*, 1999:1; Chinomona 2011:118). As such, given that the CFI value (0.911) exhibited in table 6.6 is greater than the recommended threshold, it can be deduced that this is a confirmation of acceptable model fit.

Root mean square error of approximation (RMSEA)

According to Brown *et al.* (1993:137-138), this value will resolve the issue of how well the model, with indefinite but optimally chosen parameter values would suit the covariance matrix if it were available. The assertion in the relevant literature is that a RMSEA value that falls below 0.05-0.08 is an indication of good model fit (Brown *et al.*, 1993; Curran *et al.*, 2002:59). Therefore, since the RMSEA value (0.069) shown in Table 5.6 is less than the recommended threshold, this validates good model fit.

Given that all six goodness-of-fit indices provided in Table 5.6 meet their respective recommended thresholds, it can be concluded that the data are fitting the model.

5.7 STRUCTURAL EQUATION MODELING (SEM)

As the second procedure in structural equation modeling (Chen *et al.*, 2011:243) structural modeling was conducted. This procedure includes “multiple regression analysis and path analysis and models the relationship among latent variables.” (Figure 5.2 below is a representation of the path model. Much like the CFA model, the circles or ovals represent the latent variables while the rectangles or squares represent the observed variables with their adjacent measurement errors in circular or oval shape.

The unidirectional arrow signifies the influence of one variable on another. Normally, an intact path diagram is comprised of three features: regression coefficient of independent variables on dependent variables, measurement errors related to observables variables and residual error of prognostic value of latent values (Kaplan 2000:350; Santos, Matos & Barreto 2010:2251; Beran *et al.*, 2010:267). The model fit assessment was discussed in the section hereafter.

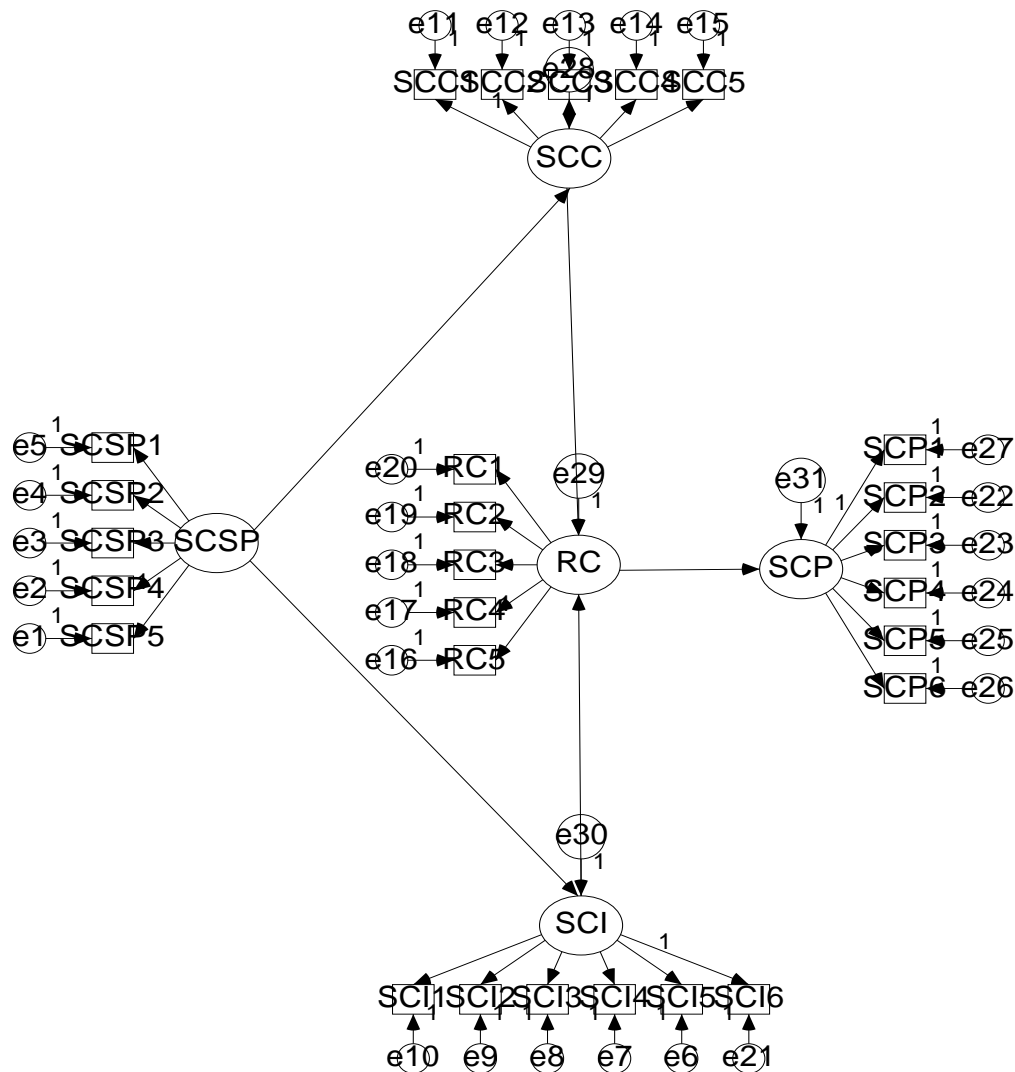


Figure 5.2: Structural equation modelling (SEM)

Source: Own

Note: SCSP=Supply chain partnership, SCC =Supply chain collaboration SCI= supply chain integration, RC= relationship commitment and SCP= supply chain performance.

5.7.1 Model fit assessment

Much like Table 5.6, and Table 5.7 below exhibits goodness-of-fit values elicited through carrying out structural model testing. In this instance, the description provided in the model fit assessment in CFA and the recommended threshold stipulated, apply here as well. In the table below, the indicator value (2.810) for the chi-square over degree of freedom falls below the recommended threshold that is 3. As such, this result signifies acceptable model fit. The goodness-of-fit index, that is NFI, TLI, IFI and CFI are exhibiting indicator values that is 0.900 which are meeting the recommended threshold of ≥ 0.9 . These results are therefore an indication of acceptable model fit. Furthermore, as a value that falls below 0.05 and 0.08 is an indication of good model fit with regard to RMSEA, the RMSEA, the value (0.073) exhibited in the table below supports the existence of good model fit as it conforms to the recommended threshold.

Given that all six goodness-of-fit indices provided in Table 5.7 meet their respective recommended threshold here too, it can be concluded that the data are fitting the model.

Table 5.7: Model fit results (structural model)

Model fit criteria	Chi-square(χ^2/DF)	NFI	TLI	IFI	CFI	RMSEA
Indicator value	2.810	0.900	0.900	0.900	0.900	0.073

Source: Own

Note: (χ^2/DF)= Chi-square/degrees of freedom NFI= Norm Fit Index TLI= Tucker-Lewis Index IFI= Incremental Fit Index CFI= Comparative Fit Index RMSEA= Root mean square error of approximation.

5.7.2 Hypotheses testing

As the hypothesised measurement and structural model has been assessed and finalized, the next step was to examine causal relationships among latent variables by path analysis (Nusair *et al.*,

2010:316). According to Byrne (2001:56) and Nusair *et al.*, (2010:316) SEM asserts that particular latent variables directly or indirectly influence certain other latent variables with the model, resulting in estimation results that portray how these latent variables are related. For this study, estimation results elicited through hypotheses testing are indicated in Table 5.8. The table indicates the proposed hypotheses, factor loadings and the rejected/supported hypotheses. The relevant literature asserts that $p < 0.05$, $p < 0.01$ and $p < 0.001$ are indicators of relationship significance and that positive factor loadings indicate strong relationships among latent variables (Chinomona, Lin, Wang & Cheng 2010:191).

All factor loadings were at least at a significant level of $p < 0.001$. The study hypothesized that the predicting role of knowledge sharing and business strategy alignment and the mediating effect of long-term relationship orientation will positively influence the supply chain performance of SMEs buyers and suppliers in South Africa. All four hypotheses (H1-H4) were supported therefore indicating that supply chain management has an important and significant effect on small and Medium Enterprises in South Africa. Generally, these results indicate that knowledge-sharing; business strategy alignment and long-term relationship orientation have a stronger influence on the supply chain performance of South African SMEs than found in enterprise employing knowledge sharing and long-term relationship alone. Also, it is important to note that long-term relationship orientation and supply chain performance had the strongest relationship while the opposite is true for knowledge sharing and long-term relationship orientation which is the weakest relationship.

Table 5.8: Hypotheses testing results

	Estimate	S.E.	C.R.	P	Label	Rejected/Supported
1.SCC1 <--- SCSP	1.004	.176	5.693	***	par_26	Supported and significant
2.SCC <--- SCSP	.769	.152	5.057	***	par_27	Supported and significant

	Estimate	S.E.	C.R.	P	Label	Rejected/Supported
3.RC <--- SCI	1.081	.166	2.155	***	par_24	Supported and significant
4.RC <--- SCC	.950	.140	6.373	***	par_25	Supported and significant
5.SCP <--- RC	.921	.152	6.059	***	par_23	Supported and significant

Source: Own

Note: SCC =Supply chain collaboration, SCSP=Supply chain partnership, SCI= supply chain integration, RC= relationship commitment and SCP= supply chain performance.

5.8 SUMMARY OF CHAPTER 5

This chapter provided the empirical results drawn from the research. The chapter was structured into five assessments. Firstly, descriptive statistics of the study's sample were addressed, illustrating the results associated with the participants' profile. To follow was an address of the item scale results. Thereafter, reliability and validity tests were conducted respectively and both tests elicited results confirming reliability and validity of measurement.

Structural Equation Modelling was undertaken subsequently. Herein, CFA and structural modelling were carried out. The primary purpose was to examine the study’s proposition that the predicting role of knowledge sharing and business strategy alignment on the mediating effect of long-term relationship orientation will have an influence on the supply chain performance of SMEs in South Africa. All four hypothesized relationships were supported as expected. Having analysed data with the use of stipulated statistical packages and procedures, it can be deduced that proper assessments regarding research objectives, theory and the hypotheses can be made bearing in mind the empirical evidence. Below is a diagrammatic representation of chapter 5

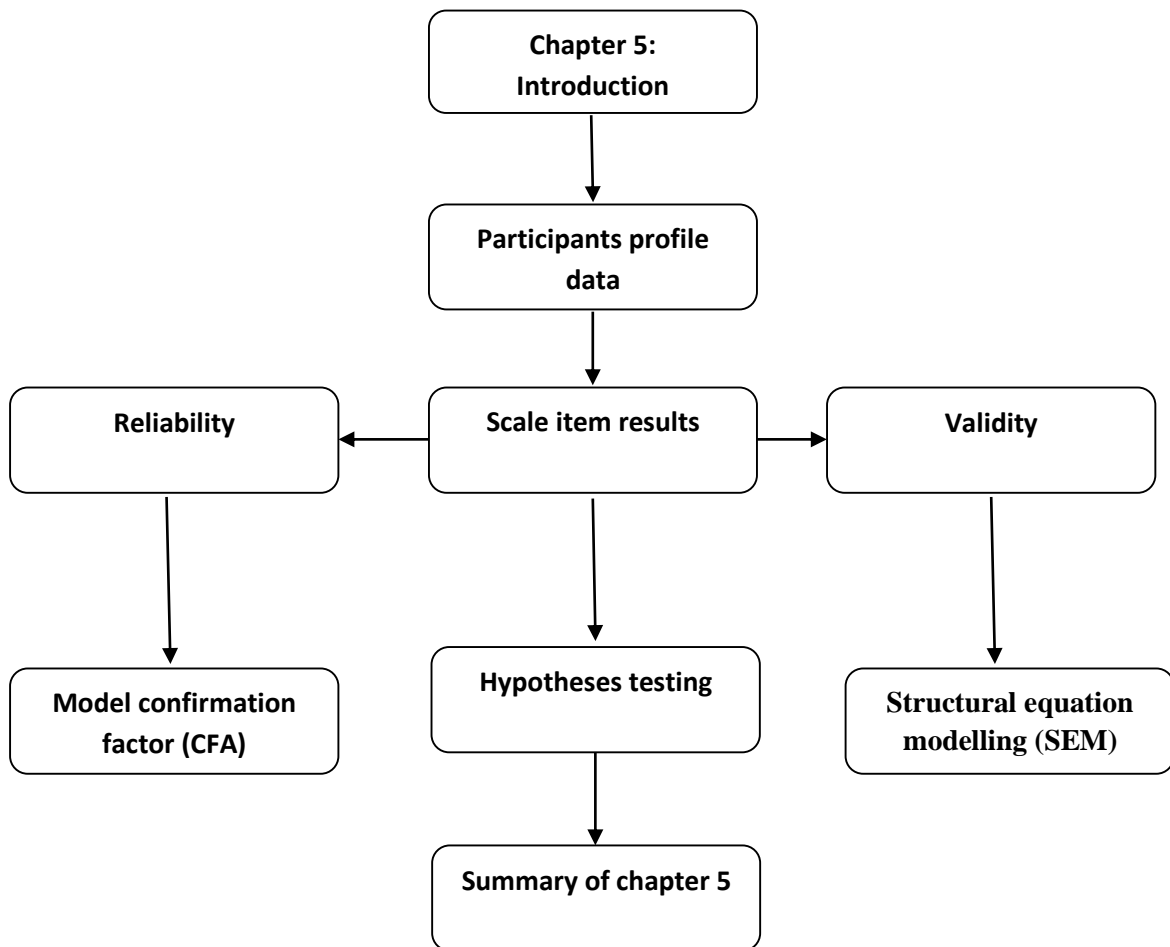


Figure 5.3: Diagrammatic representation summary of chapter 5

Source: Own

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

Chapter 6 presents the conclusion for each of the study section. It also seeks to discuss the implications of these findings. The chapter will suggest directions of future studies in light of the discussion and conclusion, implementation limitations and recommendation of the study as stated in Chapter 1. Finally, an overall represented summary of the chapter by the diagram highlighting the content of the chapter.

6.2 CHAPTER SUMMARY

6.2.1 Chapter 1: overview of the study

The study examined supply chain performance in supply chain collaborations, supply chain integration on relationship commitment and supply chain performance in South African SMEs. South African SMEs are likely to increase in size or number if proper measures are put in places so that they can be able to compete with other big organisation that have being operating in the market environment for a long time. Managers of SMEs must be trained and also offer their employees skills and development training so that the organisation can quickly adapt to the technological changes of doing business, the must implement change and new strategies in the business environment.

6.2.2 Chapter 2: Literature review

The study submits that organisers can benefit from supply chain partnership, collaboration and relationship commitment. For instance, given the positive and significant relationship between supply chain integration and relationship commitment, collaboration and relationship commitment will improve supply chain performance in South African SMEs. The economic growth of the country can grow when there is large number of SMEs entering a certain environment, creating more job opportunities and offering skill development and training to the employees so that they too can open their business one day. The South African government have

realise a need for SMEs business so they are even giving disadvantage South African citizen funds to start they own SMEs.

6.2.3 Chapter 3: Research model and hypotheses development

All the proposed five hypotheses were empirically supported indicating that supply chain performance positively influence manufacturing SMEs collaboration, integration, relationship commitment and performance in a significant way. Interesting to note from the results is the fact that on supply chain partnership has a more significant impact on integration than collaboration and relationship commitment respectively. The hypotheses indicate that organisation can become more profitable if they have a good relationship with their partners, when organisation enter into a long-term contract with partners they trust it can benefit both parties. More SMEs business are staring to collaborate in order to compete in a business market that is dominated by high competitors and big organisations that have become market leaders.

6.2.4 Chapter 4: Research design and methodology

In order to test the hypotheses, data were collected from manufacturing SMEs in South Africa around Gauteng province. By implication, the outcome shows that commercial SMEs in South Africa are credible to perform well when collaborating with other companies than they do operating in isolation. On the academic side, this study makes a significant contribution to supply chain performance by exploring the supply chain partnership, collaboration, integration and relationship commitment in the emerging South African economy. Overall, the current study findings provide tentative support for the proposition that hedonic and monetary motivations should be recognized as significant antecedents for risk-taking behaviour in manufacturing firms.

6.2.5 Chapter 5: Data analysis

Data was collect from SMEs around Gauteng Province one of the biggest province in South Africa where owner of the SMEs who responded freely to the questionnaires that was distributed. The data collected was then analysis using Amos software and discussed based on the findings. The findings shows the impact of supply chain relationship in South Africa SMEs, showing that many SMEs can benefit if they form a long-term relationship with supplies that the

trust. The data that was obtained was accurate when analysed by the software mean that the responded were not just ticking front the questionnaires that was distributed.

6.3 IMPLICATIONS

The current has without both academic and practical ramifications. First, on the academic front, an attempt was successfully made to apply the partnership theory in the small business field. This study, therefore, submits that partnership theory can be extended to explain supply chain performance, collaboration, integration, relationship commitment on supply chain performance in South African SMEs. Secondly, this study investigated current topical firm performance, an area often most overlooked by researchers who focus on the SMEs. Therefore, this study is expected to expand further the horizons of firm performance issues. If the SMEs companies are able to join forces for a common goal, they are likely to cooperate with one another and create joint synergies and competences that can give the SMEs a competitive edge and the drive to succeed in future.

6.4 LIMITATIONS AND FUTURE RESEARCH

Although this dissertation is set to make an important contribution to theoretical development in the field it also provides pioneering empirical evidence of the effects of supply chain partnership, collaboration, integration and relationship commitment as predictors of supply chain performance in South African SMEs.

The results would be more informative if data from both sides of the channel that are collected and compared. Furthermore, more valuable and insightful findings could be found by conducting a longitudinal study of the influence relationship commitment has on supply chain performance. The variations in definition pose some challenges as it makes it difficult to generalize this dissertation' findings across all SMEs in other countries that define SMEs differently. Future research might investigate the effects of supply chain performance on different dimensions in South African SMEs. All in all, these suggested future avenues of study stand to contribute new knowledge to SMEs in and around South Africa.

6.5 RECOMMENDATIONS

According to the findings, all efforts by managers should be geared toward attaining and utilizing supply chain partnership, collaboration and integration to earn relationship commitment and maintain performance from SMEs manufacturers. For instance, managers can acquire expert power by learning special skills beneficial and valuable to SMEs manufacturers. Managers can disseminate such expert to know how SMEs manufacturers through the initiation of programs such as training, information exchange, and problem-solving assistance as a motivation to recommend their trust, ensure their commitment and increase their satisfaction with the established relationship. Similarly, managers in the dealer firms can learn and attain capabilities such as greater communication skills to convey that their interests, values, norms and beliefs best fit the SMEs manufacturers. This will help attract SMEs manufacturers to identify themselves with the managers' firms and increase the supply chain performance.

6.6 SUMMARY OF CHAPTER 6

Chapter 6 presented the conclusions of this dissertation and it looked into the implications of these findings were the information obtained is presented. The chapter suggested directions of future studies were the study presents other means to retrieve information that has not being researched on and lastly the conclusion that elucidate the study. Below is a diagrammatic presentation of a summary of chapter 6.

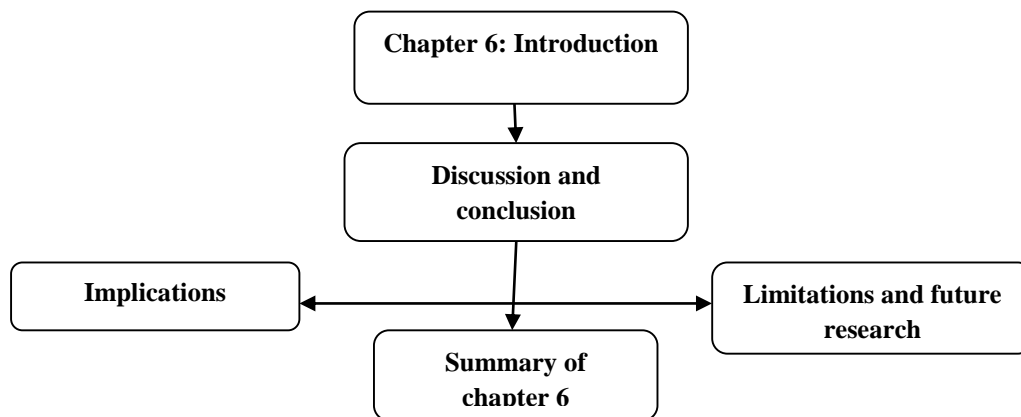


Figure 6.1: Diagrammatic representation summary of chapter six.

Source: Own

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APPENDIX: RESEARCH CONSTRUCT MEASUREMENT

SUPPLY CHAIN PARTNERSHIP

SCSP1	Our company benefits from problem solving with our major suppliers.
SCSP2	Our company involves our major suppliers in new product/service development.
SCSP3	Our company share important/technical information with our major suppliers.
SCSP4	Our company wants to make long-term commitment with our major suppliers to achieve mutually acceptable outcomes.
SCSP5	Our company views our major suppliers as suppliers of capabilities.

SUPPLY CHAIN COLLABORATION

SCC1	Our company and our major suppliers have agreed on the goals of the company.
SCC2	Our company and our major suppliers have agreed on the importance of collaboration across the company.
SCC3	Our company and our major suppliers have agreed on the importance of improvements that benefit the company as a whole.
SCC4	Our company and our major suppliers are working together to achieve the goal of the company.
SCC5	Our company and our major suppliers implement collaboration plans to achieve the goals of the company.

SUPPLY CHAIN INTEGRATION

SCI1	Our company exchange information with our major suppliers through information networks.
SCI2	Our company maintains stable procurement through networks with our major suppliers.
SCI3	Our company and our major suppliers share information on available inventory.
SCI4	Our company and our major suppliers shares production schedules.
SCI5	Our company and our major suppliers share their production capacity.
SCI6	Our company helps our major supplier to improve its process to better meet the needs of our company.

RELATIONSHIP COMMITMENT

RC1	The relationship that our company has with our major suppliers is efficient.
RC2	Our company wants to stay in the relationship with our major suppliers as they enjoy working with them.
RC3	Our company wants to stay in the relationship with our major suppliers as they share the same philosophy.
RC4	Our company wants to stay in the relationship with our major suppliers as we think positively about them.
RC5	Our company wants to stay in the relationship with our major suppliers as they are loyal to them.

SUPPLY CHAIN PERFORMANCE

SCP1	Our company can quickly modify products to meet our major customer's requirements.
SCP2	Our company can quickly introduce new products into the market.
SCP3	Our company can quickly respond to change in the market demand.
SCP4	Our company has an outstanding on-time delivery record to our major customer.
SCP5	Our company's lead time for fulfilling customer orders is short.
SCP6	Our company provides a high level of customer service to our major customer.